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# *Bulletin*

Dominion Museum (N.Z.)

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NEW ZEALAND.

COLONIAL MUSEUM.

(A. HAMILTON, DIRECTOR.)

BULLETIN No. 1.

1905.



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1906.

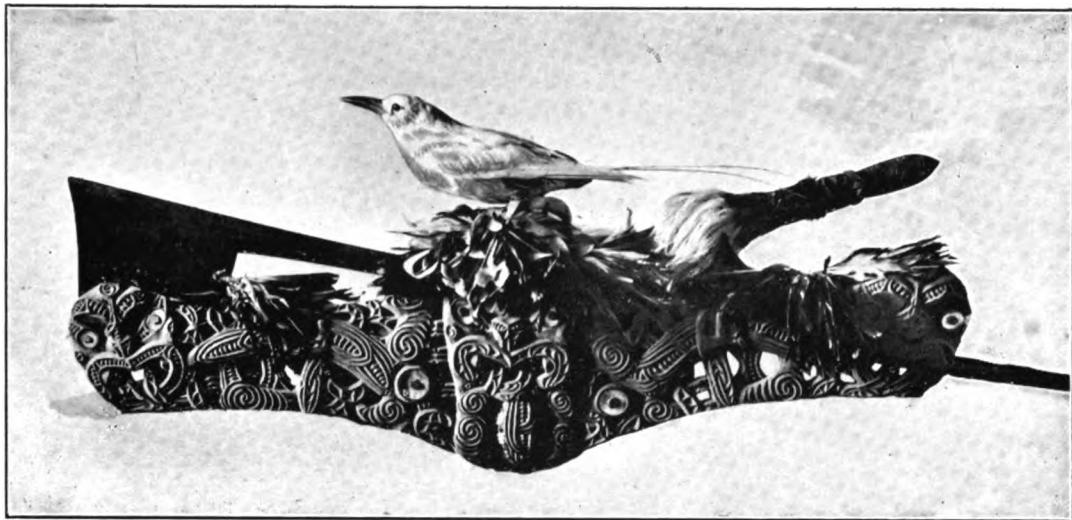
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## INTRODUCTORY.

ON the 10th October, 1867, an Act was passed by the Parliament of New Zealand "to establish an Institute for the Advancement of Science and Art in New Zealand,"\* and to make provision for the carrying-out of the geological survey of the colony, the provincial surveys then at work being discontinued.

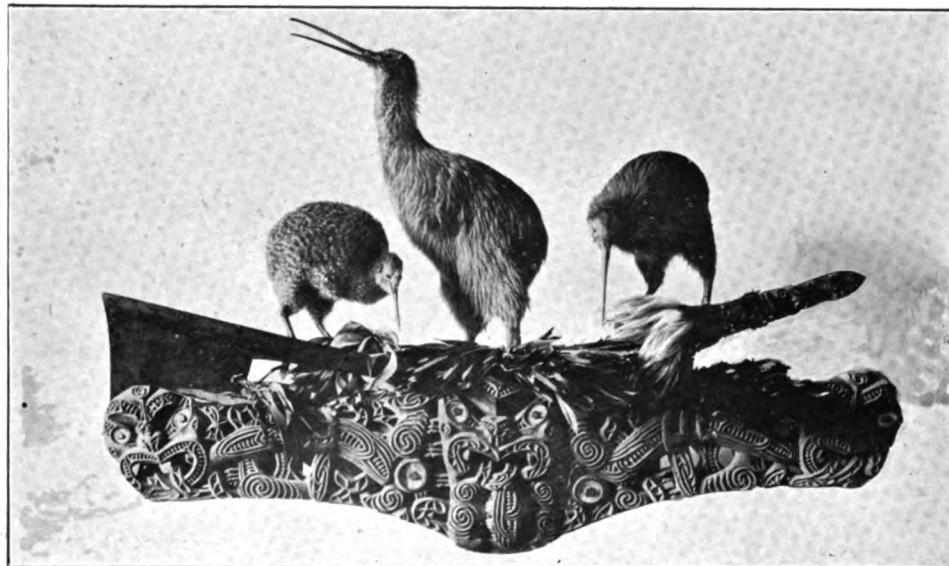
The Institute so established was called the "New Zealand Institute," and was to comprise a public museum and laboratory and a public library, and generally to promote the cultivation of the various branches of art, literature, and philosophy. Provision was made by the Act for a Director and staff of the Geological Survey, and a Manager and a Board of Governors for the Institute, which was to have a grant of not less than £500 a year, the expenses of the Geological Survey being charged to another fund. The land and buildings of the Colonial Museum, then recently established to receive the collections of the Geological Survey, were to be granted to the Institute. In this way the three institutions—the Geological Survey of New Zealand, the New Zealand Institute, and the Museum—became associated.

Sir James Hector was appointed Director of the Geological Survey and Manager of the Institute, and discharged these important duties, and many others, until his retirement in December, 1903.

"The New Zealand Institute Amendment Act, 1903," was then passed, which made a radical change in the position of affairs, and cut asunder the three institutions which had grown up together under Sir James Hector's management. The Geological Survey, with its collection of minerals and fossils, together with the Colonial Laboratory, remained under the Mines Department; the Colonial Museum, with the Meteorological Office, was placed as a department under the Colonial Secretary; and the New Zealand Institute, with a new constitution, established as an independent organization under the Colonial Secretary's Department, with an elected President.

\* The New Zealand Society, with similar aims, was founded by Sir George Grey in 1851.





## GEOLOGICAL SURVEY OF NEW ZEALAND.

(DIRECTOR, SIR JAMES HECTOR, K.C.M.G., M.D., F.R.S.—RETIRED 1903.)

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THE first of the three bodies to be dealt with is the Geological Survey, which took the place of the surveys commenced in the various provincial districts then abolished. Very large collections were made from all parts of the colony, and great numbers of minerals, rocks, and fossils placed in the Colonial Museum. A number of geological models and casts of important fossils were made by the Director and his staff.

The Director issued a series of reports and maps as the result of the field-work of his staff, prefaced by remarks on the general bearings of the facts observed in each season.

A list is given of the persons connected with the Geological Survey from 1869 to 1893, when the Mines Department took control of the work of the Survey. A list is also appended of the publications of the Survey for the same period, and of the separately issued reports extracted from the annual reports of the Minister of Mines to Parliament.

The Geological Survey of New Zealand has now (1905) been reorganized under Dr. J. Mackintosh Bell, and a new series of publications will be issued.

## OFFICERS OF THE GEOLOGICAL SURVEY BETWEEN 1866 AND 1893.

Hector, Sir James, K.C.M.G., F.R.S., &c., Director.	Davis, E. H.
Buchanan, J., Draughtsman. Retired 1886 ; died 1898.	McKay, A., F.G.S., Geologist.
Cox, Herbert S., Assistant Geologist.	Park, James, F.G.S.
Gore, R. B., Clerk. Died 1904.	Palethorpe, H., Engraver.
Hutton, Captain F. W., F.R.S. Died October, 1905.	Pierard, C. H., Draughtsman.
	Rayer, W., Assistant.
	Skey, W., Analyst to Survey.
	Paul, J., Field Assistant. (1885.)

## EMPLOYED BY THE SURVEY TEMPORARILY TO REPORT ON VARIOUS MATTERS.

Binns, J. G.	Haast, Sir J. von.
Campbell, W. D.	Lindop, A. B.
Denniston, R. B.	Rowe, W. E.

## CONTRIBUTORS OF REPORTS AND PAPERS PUBLISHED IN THE REPORTS OF THE SURVEY.

Davis, J. W.	Tate, Professor Ralph.
Macfarlane, D.	Ulrich, Professor G. H.

## LIST OF PUBLICATIONS OF THE SURVEY.

*Reports.*

Survey Reports, 1 to 22. 1866-94.

Index to Geological Reports, 1866 to 1885. 1889.

Bulletin No. 1, 1888. Amuri Earthquake. A. McKay. Oct., 1888.

Bulletin No. 2, 1888. On the Ophir District, Otago. James Park. Nov., 1888.

Bulletin No. 1, 1892. West Coast Goldfields. A. McKay. 1892.

*Maps.*

Geological map of both Islands of New Zealand, 1869.

Geological map, 1873.\*

Geological map, 1880; and on a reduced scale in handbook (Melbourne Exhibition).

Geological map, 1883, in "Handbook of New Zealand, 1883"; and in Geological Report No. 16, 1884.

Geological map, 1885. Same as above, but dated 1885 in Catalogue of New Zealand Court, Indian and Colonial Exhibition, 1886.

Sketch-map of Mineral Localities. 1886. In Geological Report No. 18, 1887.

\* One hundred and fifty copies of this were sent to Professor Owen for incorporation with a work on the Extinct Struthious Birds of New Zealand. (Appendix to Journals of the House of Representatives, G.-38, 1872.)

Catalogue of Geological Models and Casts.  
Palæontology of New Zealand—Part IV : Fossil Corals and Bryozoa. Tenison-Woods.

*Published by Mines Department of the New Zealand Government (1894–1904).*

Reports of the Government Geologist and others, as parliamentary papers, in annual reports of Minister of Mines.

Republications :—

The annual reports of the Colonial Analyst from 1893. No. 28 to date has been issued by the Mines Department.

Report on the Recent Seismic Disturbances, Cheviot County. A. McKay. 1902.

On the Auriferous Drifts of Central Otago. A. McKay.

Report on the Fossil Fish Remains of New Zealand. J. W. Davis. (From *Trans. Roy. Dublin Soc.*, vol. iv, ser. 11, 1885.)

Report on the Eruption of Tarawera and Rotomahana. Professor Thomas.

Report on the Tarawera Volcanic District. F. W. Hutton. 1887. (?)

Handbook of New Zealand Mines. 1887.

*Separate Publication.*

Rocks of Cape Colville Peninsula. Determined by Professor Sollas. Introduction and Descriptive Notes by A. McKay. Vol. i. 1895.

A list of the papers on New Zealand geology, arranged under authors' names, is given in vol. xxxv, p. 489, of the "Transactions of the New Zealand Institute," and this, of course, gives the whole of the papers written by officers of the Geological Survey of New Zealand.

The year 1893 may be said to close the first series of publications of the Geological Survey of New Zealand, as the reports ceased with No. 22, issued in 1894; but in 1898 a separately printed report, called the "Thirty-second Annual Report of the Colonial Museum," was headed, "New Zealand Institute, Colonial Museum, and Geological Survey of New Zealand (Sir James Hector, K.C.M.G., M.D., F.R.S., Director)." It contains a report (thirtieth annual) of the New Zealand Institute, the meteorological report of the year (with diagrams of the weather), the report of the Colonial Time-ball Observatory, and the Museum report. In this report, page 22, under the heading, "Geological," is given the following information about the collections of the Survey in the Museum: "The foreign type minerals, New Zealand minerals and ores, and the general collection of rock-specimens, both foreign and local, are in thorough order for reference; so also are the large collections of fossils,

which consist of—first, a typical collection from every formation, and from all parts of the world ; second, New Zealand fossils arranged according to their localities, and a second collection arranged according to their zoological classification. The New Zealand collections alone embrace over thirty thousand specimens. A very large number of specimens, which have been collected at great expense, still remain unpacked in some five hundred boxes, stored under the Museum ; but, with the greatly reduced staff of the Department, and the small space for work and exhibition, it is quite impossible to render them available for study.”

It will be seen that so long as the three institutions which had thus grown up together for more than thirty years were administered by Sir James Hector the publications would naturally contain such remarks and information as it was necessary to publish, irrespective of the main title of the publication.





## COLONIAL MUSEUM.

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THE first report of the Museum, established by Government in 1865, was issued as a "Memorandum concerning the Colonial Museum," by James Hector, F.R.S., from the Geological Survey Office, 11th September, 1866, and was in the form of a parliamentary paper—D.-9, 1866. (See also D.-14, 1868.)

The Museum then contained about fourteen thousand specimens, mainly the collection of the Geological Survey of the Province of Wellington, and some from the Provincial Survey of Otago, the collections of the New Zealand Society, and specimens deposited by private individuals. The report also gives the result of the analyses made in the Colonial Laboratory by Mr. Skey.

The report for 1867 gives a geological sketch-map and report on the Waiapu petroleum-springs.

In 1883 the fourteenth annual report of the Colonial Botanic Gardens is included, and appears in subsequent reports until 1886.

The twenty-seventh annual report closes the series in 1893, the Colonial Laboratory publishing the twenty-eighth annual report under the heading "Mines Department, New Zealand," all the preceding reports being issued as publications of the Colonial Museum and Geological Survey of New Zealand.

The Museum and Colonial Laboratory reports contain valuable notes and information on many subjects other than those in the title, the Director of the Geological Survey then superintending many scientific researches now conducted by separate departments.

## METEOROLOGICAL OFFICE.

The meteorological reports were published as abstracts in the *Gazette* every month, and also are published in the Registrar-General's monthly report on the vital statistics of the colony. The full returns are published in the volume of the statistics. They are also published in pamphlet form from 1867 to 1884. The reports of the astronomical observatory and the time-ball work were also included in the annual report.

The Director of the Geological Survey was responsible for all these reports, and also for a part of the time had the custody of the standard weights and measures.

## PUBLICATIONS ISSUED BY THE COLONIAL MUSEUM.

Museum Reports, 1865 to 1893, and 1898. Twenty-seven consecutive reports were issued as separate publications, and then, in 1898, a report called the "Thirty-second Annual Report of the Colonial Museum" was issued, headed, as previously mentioned, "New Zealand Institute, Colonial Museum, and Geological Survey of New Zealand."

Laboratory Reports No. 1 (1865) to No. 27 (1893). (No. 28, 1893, to date, see under "Mines Department" in the parliamentary reports.)

Summary of annual reports of Museum and Laboratory in Appendix to the Journals of the House of Representatives (D.-9, 1866, and D.-14, 1868). (For the remaining reports see New Zealand Institute reports, in Appendices.)

Meteorological reports, 1867-68, 1869-70, 1871-72, 1873-74, 1875-76, 1877-79, 1880-82, 1883-84. (See also in *Gazettes* and "Statistics of New Zealand.")

*Other Publications.*

Botanical Notes on the Kaikoura Mountains and Mount Egmont. 1867.

## J. Buchanan.

Catalogue of Colonial Museum. 1870.

Catalogue of the Birds of New Zealand. F. W. Hutton. 1871.

Catalogue of the Fishes of New Zealand. F. W. Hutton. 1872.

Catalogue of the Marine Mollusca of New Zealand. F. W. Hutton. 1873.

Catalogue of Echinodermata. F. W. Hutton. 1872.

Phormium tenax. Dr. Hector. 1st ed., 1872; 2nd ed., 1889.

Catalogue of Tertiary Mollusca and Echinodermata. F. W. Hutton. 1873.

Catalogue of Land-shells. 1873.

Critical List of Mollusca. Ed., Von Martens. 1873. (Errata and addenda received from the author, March, 1874.)

Stalk and Sessile-eyed Crustacea. Ed., J. Miers. 1876.

Manual of New Zealand Mollusca. F. W. Hutton. 1879.

Indigenous Grasses of New Zealand. J. Buchanan. Folio. Parts 1-6.  
1878-79-80.

Manual of the New Zealand Grasses. J. Buchanan. 8vo. 1880.

Manual of New Zealand Coleoptera. T. Broun. Parts 1-2, 1880; parts 3-4,  
1886; parts 5, 6, and 7, 1893.\*

Manual of the New Zealand Birds. Dr. Buller. 1882.

Catalogue of New Zealand Diptera, Hymenoptera, and Orthoptera. F. W.  
Hutton. 1881.

Biological Exercises for New Zealand Students:—

1. The Shepherd's Purse. F. W. Hutton. 1881.
2. The Bean Plant. T. J. Parker. 1881.
3. The Anatomy of the Common Mussels. A. Purdie. 1881.
4. The Skeleton of the New Zealand Crayfish. T. J. Parker. 1889.

Handbook of New Zealand, Sydney International Exhibition, with Appendix  
to Official Catalogue of Exhibits. Dr. Hector. 1879.

Handbook of New Zealand, Melbourne International Exhibition, with Appen-  
dix to Official Catalogue of Exhibits. As 2nd ed. of Handbook of New Zealand,  
with Geological Map. Dr. Hector. 1880.

Handbook of New Zealand, with Geological Map. Dr. Hector. 3rd ed. 1883.

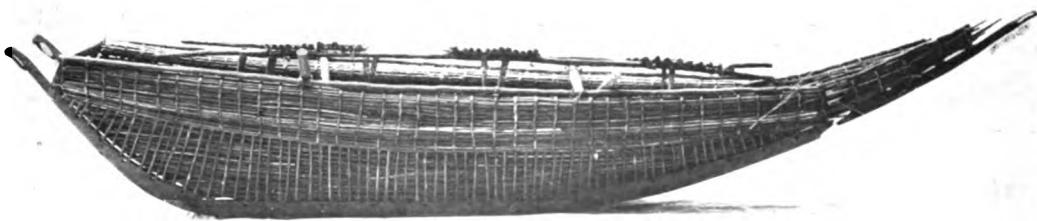
Handbook of New Zealand. Dr. Hector. 4th ed. 1886.

Indian and Colonial Exhibition: Catalogue and Guide to Geological Exhibits,  
with Geological Map. 1886.

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\* Parts 5, 6, and 7 were published by the Governors of the New Zealand Institute.





## NEW ZEALAND INSTITUTE.

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THE rise and progress of the Institute can be best described by quoting the words of Sir James Hector in a memorandum addressed to the Government some years ago :—

“ The first scientific society in New Zealand was founded in 1851, the first President being Sir George Grey, K.C.B., D.C.L. It was named ‘ The New Zealand Society,’ and was located in Wellington. In 1862 a second society was established, in Christchurch, as the Philosophical Institute of Canterbury, the first President being Mr. Julius Haast (since Sir Julius von Haast, K.C.M.G., Ph.D.). Much useful work was done by these societies, but they met at very irregular intervals, and the funds collected were inadequate for the proper publication of the papers that were communicated by the members. They therefore languished, owing to their being merely local societies, not having the sympathy of the colony.

“ The Exhibition held in Dunedin in 1865 brought prominently before the public the advantage of a more general organization for the development of the resources of the colony, and, soon after the establishment of a scientific department by the General Government, the New Zealand Institute Act was passed, in 1867, and its administration was placed under the Director of the Geological and Natural History Survey. . . .

“ Each member of the scientific societies affiliated to the New Zealand Institute receives a share of the parliamentary grant in the form of an annual volume of the *Transactions* for the year of all the various societies. The presentation of this volume

is regarded as a substantial equivalent for the subscriptions, and the fund which is created by local subscriptions is applied locally towards the maintenance of public museums in the different centres of population. . . . The Institute commenced with four branch societies in 1869, and only 258 members, but there are now nine societies affiliated. . . .

“The funds at the disposal of the Board of Governors of the Institute have consisted only of the annual grant by Parliament of £500, an annual contribution from the Wellington Philosophical Society as an equivalent for the rent of the library-room and the use of the lecture-hall, and a small sum arising from the sale of volumes. Nearly the whole of the funds is spent in the printing of the volume of *Transactions*, only a very small amount being devoted to the maintenance of the library in the way of binding books. Nor is the information contained in these volumes confined to the colony, as they are widely distributed to the chief libraries in all parts of the world.

“Forty-seven of the most distinguished men in science and literature, who have rendered special service to New Zealand, have been elected honorary members, while there are seventy-five corresponding societies and institutions that exchange their publications with the Institute. About three hundred volumes per annum are acquired in this manner.”

The figures in the last paragraph have now, of course, altered.

#### PUBLICATIONS OF THE NEW ZEALAND INSTITUTE.

(Edited by the Manager, Sir James Hector, K.C.M.G., F.R.S. ; retired, 1903.)

Annual volume of the “Transactions and Proceedings,” 1869, to date. Vol. iii has three parts—part i, pp. 1-72; part ii, pp. 73-110, contains Proceedings, and has added, a Corrected List of New Zealand Ferns (separately paged), pp. 1-4. Vol. ix has the Proceedings as part ii; the pagination follows the volume, and the index that of the original index. After the seventeenth volume the size was changed from royal octavo to demy octavo.

The annual reports to Parliament may be found in the Appendix to the Journals of the House of Representatives, as follows: 1869, D.-9; 1870, D.-25; 1871, G.-17; 1872, G.-38; 1873, H.-25; 1874, H.-31; 1875, H.-23; 1876, H.-34; 1877, H.-26; 1878, H.-18; 1879, H.-7 (Sess. II); 1880, H.-20; 1881, H.-25; 1882, H.-28; 1883, H.-21; 1884, H.-12 (Sess. II); 1885, H.-24; 1886, H.-29; 1887, H.-8; 1888, H.-22; 1889, H.-26; 1890, H.-35; 1891, H.-25; 1892, H.-23; 1893, H.-1 and H-1A; 1894, H.-20; 1895, H.-27; 1896, H.-27; 1897, H.-27; 1898, H.-30; 1899, H.-33; 1900, H.-33; 1901, H.-33; 1902, H.-33; 1903, H.-33.

*Separate Publications.*

Maori Art. By A. Hamilton. 4to. 1896. Published in five parts.

Index to Transactions, i-viii, 1877; and i-xvii, 1886.

Third Supplement to Catalogue of the Carter Collection of New Zealand Books.

(The Catalogue and First Supplement printed by Mr. Carter in England.)

Deep-sea Fauna of New Zealand. Extracts from "Challenger" Reports. Hamilton. 1896.

Hand List of the Genera and Species of New Zealand Plants. Hamilton. 1899.

Mangareva Dictionary, Gambier Island. Tregear. 1899.

Thirtieth Annual Report, with Meteorological Report and Museum Report for 1898.

Catalogue of the United Libraries of the Geological Survey, the Museum, and the New Zealand Institute, including also the Books belonging to the Library of the Wellington Philosophical Society (1st and 2nd eds.). 1890 and 1900.

It may, perhaps, save a good deal of trouble if I here mention that the lists of the publications of the three departments have been made mainly to enable more correct lists to be set out in catalogues of libraries, and it must be remembered that owing to the small editions published of many of the manuals and lists there are at present no copies available for exchange of any of the publications.

The only exception to this statement is in the case of the volumes of the "Transactions of the New Zealand Institute" and "Maori Art." Of the Transactions, there are no copies available of volumes ii, iii, iv, and viii.

There is only a limited number of copies of the sets of "Maori Art." Separate copies of parts ii, iii, iv, and v may be obtained from the Secretary of the Institute.





## POSITION OF THE MUSEUM AFTER THE PASSING OF "THE NEW ZEALAND INSTITUTE ACT, 1903."

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THE Act of 1903 reconstituting the New Zealand Institute marks in a very definite manner the separation and parting of the three institutions which had grown up together, the Institute standing apart with a council of representatives from the affiliated societies, managing its own affairs, and issuing its *Transactions*, which it presents to a number of scientific institutions throughout the world. From many of these, valuable publications are received by way of exchanges.

There is nothing in the constitution of the Institute to locate it specially at Wellington. The Order in Council vesting the property of the New Zealand Institute in the new corporation was issued in the *New Zealand Gazette* of the 1st September, 1904. The schedule then given defines the property of the Institute, and the headquarters might be wherever the Council sees fit to determine.

The decision of the Government to re-establish the Geological Survey, and the appointment of Dr. J. Mackintosh Bell as Director in 1905, marks a fresh epoch in the work of the Geological Survey, and was followed by the establishment of the staff in a new building in Sydney Street, the lower part of which is occupied by the Colonial Analyst.

On the retirement of Sir James Hector from the directorship the Government appointed Mr. A. Hamilton as Director of the Colonial Museum, and especially desired that prompt measures should be taken to secure a representative collection illustrative of Maori art and the Maori race. The Meteorological Office was also placed under his charge until further arrangements could be made.

## THE NATIONAL MAORI MUSEUM.

As the New Zealand Government, in appointing the new Director, directed his special attention to the collection of a representative series of specimens of Maori art and workmanship, it may be as well to give a brief outline of the circumstances which led up to this instruction.

In the session of 1901 several discussions took place in Parliament on the question of recording historical facts relating to the Maori race, and the Hon. the Native Minister stated that the subject of the compilation of a Maori history and the question of restricting the exportation of Maori relics was under the consideration of the Government, and a Bill was introduced on the 4th October by the Hon. the Native Minister with this end in view.

The Bill was favourably received, and much interest shown in the matter. It was pointed out by some that such a measure should have been passed twenty years before, but many supported the Bill as still urgently required.

In Committee a few alterations were made, and the Bill was read a third time on the 9th October, passing the Upper House shortly afterwards.

In the discussion which followed, the gift of a large Maori house to the Government for the proposed museum was announced, the house being the property of Tamahau Mahupuku, a chief of the Wairarapa, and his people, who made the gift in appreciation of what the Government is doing in the direction of preserving Maori antiquities. The following is the letter conveying the gift :—

**EXTRACTS FROM A LETTER FROM TAMAHAU MAHUPUKU TO THE HON. MR. CARROLL, MINISTER OF NATIVE AFFAIRS, PRESENTING CARVED HOUSE.**

Our hearts were filled with genuine joy, and justly so, when we heard that you had introduced a Bill to Parliament the object of which is to lay down an authoritative law to provide for the collecting, preserving, gathering together the art treasures and insuring the safety of specimens of the handiwork of our ancestors who have passed away from this world—to be kept together in one place, and a barrier placed against their removal over-sea. That is a step that will cause the minds of the people to reflect on the past, and to cherish, preserve, and venerate the science of their ancestors who are now sleeping in the bosom of their mother, Papa-tu-a-Nuku (Mother Earth, wife of Rangi, the sky). Such a sentiment stirs the soul, and causes even the eyes that are blind to see, strengthens the muscles that have become benumbed, gives strength to arms and fingers; and the dormant mind is awakened so that it may act with determination, caution, and discrimination, bringing back old-time recollections to the heart that has almost forgotten the history of the voyaging hither of the floating vessels of our ancestors—great canoes which brought them from distances great, distances vast, distances stretching far away back to where flushed the first dawn of creation when life first breathed into matter—across ocean's mighty billows, through the raging of winds, the downpour of rains, through mighty tempests. It would have been impossible for the faint-hearted beings of the present day to follow the awe-inspiring path traversed by those canoes when crossing the ocean hitherward. Their ultimate safe arrival was due to the strength in the hands that wielded the paddles, and the keen observant eye to note the signs in the heavens as they pursued their course through calm and tempest. It was the discretion in their hearts that enabled them to successfully carry out their plans, and their strength of purpose helped them to firmly retain the knowledge which past experience had taught them. Their guides were the secret signs above, going by which they were enabled at length to reach this fair and beautiful land,

where they were to become the people of the soil, and accord hospitable welcome to subsequent arrivals when the appointed time came for receiving such—fair skin, light-brown skin, and dark skin, yet of one common blood, and therefore alike ; and now through this gathering-together of these several races they have become blended into one, as other people have in other places under the sun. Thus we progress and go on progressing. Protecting care and truth have met together, righteousness and permanent peace have saluted each other. Righteousness looks down from heaven and sees that truth is progressing upon the earth, and that it hath laid its mantle over the two races, who are now living together as brethren in this their fair and beautiful home-land. All these things cover a wide field for the mind to dwell upon, and to have put into shape as something to leave to the after-ages, and your Act, O Minister ! should cause this to be done. . . .

O, Hon. Minister for Native Affairs, the Government, the honourable members of the House of Representatives, and the honourable members of the Legislative Council ! may your days be lengthened to lead the people to the fulfilment of those honourable positions which are attainable by the Maori people in these days, that their bodily health may be preserved through the medium of the Maori Councils ; that such highly beneficial and humane measures be encouraged as the sanitation of the *marae*, the removal of garbage, the advancement of the race to rear children, who will be shielded from accident even as though they were protected within a palisaded *pa* ; the relieving of the poor, the stranger and wanderer, the blind, the deaf, the cripple, the leper, the paralytic, and the insane. The existing necessities to deal with these matters have given birth to the new positions and duties which the present generation is now called upon to fill and to perform. Dr. Pomare is the result of the advance of the age in so far as the Maoris are concerned, and in himself bears testimony of their capability to go forward with the times. Even though we might multiply words without end in connection with this important measure of which our ears have heard, yet pleasure, gladness, and a feeling of relief has long ago taken up their abode in our hearts and in the aged bodies of us, the elder generation, who are now approaching the end of the allotted span accorded to mortals ere they return to dust. . . .

This action of yours has to our mind revived the waning science of our ancestors, who have passed away to nothingness, even as the snow on the mountain-tops is melted away by the warmth of the summer sun. Therefore proceed with your work, preserve it in your preserving-chamber, fashion it with the earth of Kurawaka, so that another *Hinehauone* may arise (the first woman resulting from the union between Rangi—Heaven—and Papa—Earth) in the new building-up and collecting-together of our ancient lore, our history, our treasures, our laws, our customs, our sacred rites, and everything that can be preserved of us as a people. Our ancestors who came to these Islands had three great possessions by means of which existence was aided, and mana and chieftainship upheld and established :—(1) The war canoe, carved and equipped with all its numerous fittings and cargo : (2) the palisaded *pa* with all its adjuncts (from which the name arose), with its carvings and its multitude of varied and valuable properties : (3) the *whare maihi* house with its carved timbers, dedicated to the *atua* (divinity) ; it was *tapu* (sacred), it had mana : this house distinguished and separated all classes of the people ; it kept up the skill and handicraft of both men and women, and preserved the mysteries of the *wananga*. . . .

We are quite confident that that which our ears have heard will be realised, and our hearts are full of gladness, as are, no doubt, those of the other elders and ancient ones throughout the eastern, the northern, the western coasts of this Island of Aotearoa, crossing over to the Island of Te Wai-pounamu (the Middle Island), including their lesser islands, and right on to those other isles of Hawaiki which have lately been annexed to these Islands, will all raise their voices as one man and cry, “ It is well ! it is well ! it is well ! ” And their eyes will become suffused with tears in emotional reflection on the past. . . .

We have had a large meeting, O Minister ! to consider your Act, and to give what support we can to you. Our meeting is over. Ngati Hikawera and Ngati Moe have come to a unanimous decision, in peace and quietness, and with a resolved mind, to present the carved house “ Takitimu,” now standing at Kehemane, wholly as it stands, to you and the Government as a token of our appreciation of your efforts in connection with the preservation of the handiwork of your Maori people, to be viewed by the eyes of the two races, who are now living together as brethren, and those who come after them. The name of the house (Takitimu) was the name of the canoe in which those of Rongokako and his son Tamatea came from afar. Takitimu was one of the famous seven canoes—namely, Takitimu, Kura-haupo, Te Arawa, Tainui, Matatua, Aotea, and Tokomaru—that reached this Island of Aotearoa many generations ago.

This is a chief's gift from me, Tamahau Mahupuku, of this the Takitimu carved house, on behalf of the tribes and hapus living within the boundaries of Rongokako, thence to the east coast, on to the northern coast, right round to the western coast, across Cook Strait, and right round the Middle Island. This is an absolute, genuine, and permanent gift under the warm sun to you, O Timi Kara ! the Hon. Minister for Native Affairs, of this carved house "Takitimu" in its entirety as it stands. Under this gift you have the right to take, remove, or transfer it from its present site at Kehemane, Nga-waka-a-Kupe, Wairarapa, with its carved timbers, its laced worked sides, and all its furniture, together with the likenesses of the old chiefs which are contained within the said carved house—namely, Wereta te Kawekairangi, Hoera Whakatahakiterangi, Ngairo Takatakaputea, Heremaia Tamakitematangi, and Wiremu Hikawera Mahupuku—whose names are to be found in the deeds ceding lands to the Queen in former days. Under the gift you have the right to take, remove, or transfer it from its present site at Kehemane to any other locality.

This gift was made on the 9th day of October, 1901, by Tamahau Mahupuku, on behalf of the descendants of Rongokako and the Maori tribes of Aotearoa (the North Island) and Te Waipounamu (the Middle Island), and all their smaller adjacent islands.

O Timi Kara ! if you be pleased to accept this gift our hearts will rejoice with exceeding great gladness.

From your sincere elder,

TAMAHAU MAHUPUKU.

The following is an abstract of the Maori Antiquities Act as now amended, and the regulations made under the Act are given at the end :—

In this Act, if not inconsistent with the context, the term "Maori antiquities" includes Maori relics, articles manufactured with ancient Maori tools and according to Maori methods, and all other articles or things of historical or scientific value or interest and relating to New Zealand, but does not include any botanical or mineral collections or specimens.

The Governor may acquire on behalf of the colony such Maori antiquities as he deems expedient, and may provide for the safe custody of the same.

From and after the passing of this Act, it shall not be lawful to remove from the colony any Maori antiquity without first offering the same for sale to some person authorised in that behalf by the Governor in Council for the benefit of the colony.

It shall be the duty of all officers of Police and Customs to seize and detain any Maori antiquity attempted to be removed from the colony contrary to this Act.

Every person who, without the express permission in writing of the Colonial Secretary, exports from New Zealand any Maori antiquity is liable to a fine not exceeding one hundred pounds.

Notice of the intention to export any Maori antiquity shall be given by the exporter to the Collector or other proper officer of Customs at least twenty-four hours before shipment.

Any Maori antiquity entered for export contrary to this Act shall be forfeited, and shall vest in His Majesty for the use of the people of New Zealand : Provided that the Colonial Secretary may, after inquiry, cancel the forfeiture if he thinks fit.

In case any dispute arises as to whether any article or thing comes within the scope of this Act, such dispute shall be determined by the Colonial Secretary.

The Governor may from time to time make regulations,—

(1.) Prescribing the duties and powers of officers of Police and Customs in enforcing the provisions of this Act ;

(2.) Prescribing penalties for the breach of any such regulation ;

(3.) Prescribing anything required for the more effectual carrying-out of the provisions of this Act.

Nothing in the Acts shall be deemed to prevent any person who has offered any Maori antiquity for sale as provided by section four of the principal Act removing such Maori antiquity from New Zealand, provided that he has obtained the permission in writing of the Colonial Secretary.

On any application for permission to export any Maori antiquity the Colonial Secretary may, if he thinks fit, make it a condition to the granting of the application that the owner of the antiquity allow it to be copied, by photography, cast, or otherwise, in such manner and by such person as the Colonial Secretary directs.

Every such copy shall be the property of His Majesty for the use of the people of New Zealand.

## REGULATIONS UNDER "THE MAORI ANTIQUITIES ACT, 1901."

RANFURLY, Governor.

In pursuance of the power and authority conferred by "The Maori Antiquities Act, 1901" (hereinafter termed "the said Act"), I, Uchter John Mark, Earl of Ranfurly, the Governor of the Colony of New Zealand, do hereby make the following regulations for the purposes of the said Act.

## REGULATIONS.

In these regulations—

"Maori antiquity" means and includes Maori relics, articles manufactured with ancient Maori tools and according to Maori methods, and all other articles or things of historical or scientific value or interest and relating to New Zealand, but does not include any private collection not intended for sale, nor botanical or mineral collections or specimens.

"The said Act" means "The Maori Antiquities Act, 1901."

"Government Purchase Officer" means an officer duly authorised under the said Act to receive offers for sale of any Maori antiquity, and to receive applications for permission to export any Maori antiquity.

1. Every person desirous of removing any Maori antiquity from the colony shall apply to the local Government Purchase Officer for permission to do so, and every such application shall be in the form No. 1 in the Schedule hereto.

2. Upon obtaining the consent of the Colonial Secretary to such removal the Government Purchase Officer may grant a permit in the form No. 2 in the Schedule hereto.

3. If any officer of police, Customs officer, or Government Purchase Officer has reason to believe that any person is about to remove any Maori antiquity from the colony contrary to the provisions of the said Act, any such officer may seize and take possession of such Maori antiquity, and may hold the same until the decision of the Colonial Secretary be obtained.

4. If the rights to seize or detain any such Maori antiquity be disputed by the person from whom the same shall have been taken, or by the owner or claimant, such person, owner, or claimant shall at once serve written notice upon the officer making such seizure that it is desired to have the dispute settled by the Colonial Secretary.

5. The Colonial Secretary shall thereupon make such arrangements for hearing such dispute and notifying the parties concerned as to him may seem fit. The decision of the Colonial Secretary shall be final.

6. If any person obstructs, assaults, or resists any officer of police, Customs officer, or Government Purchase Officer in the exercise or performance of his duties under the said Act or these regulations, such person shall be liable on conviction to a penalty not exceeding £10.

## SCHEDULE.

*Application for Permit ("Maori Antiquities Act, 1901").* [Form 1.]  
Date :

I, A. B., , hereby apply to , Government Purchase Officer under "The Maori Antiquities Act, 1901," for permission to remove from the Colony of New Zealand the following articles :—

(1.)  
(2.)

(Signed) A. B.

(NOTE.—Each article is to be described sufficiently to identify it to the satisfaction of the Purchase Officer.)

*Permit for Removal ("Maori Antiquities Act, 1901").* [Form 2.]

I, C. D., Government Purchase Officer, hereby grant permission to A. B. to remove from the colony the articles enumerated above, numbered

(Signed) C. D.,  
Government Purchase Officer.

Approved.

, Colonial Secretary.  
Date :

As witness the hand of His Excellency the Governor, this fifteenth day of April, one thousand nine hundred and four.

(Signature of Minister.)

The passing of the Act prohibiting the export of Maori antiquities was the subject of much favourable comment in the scientific world, and shortly after its passing, and at the request of the Hon. Mr. Carroll, Mr. Percy Smith and Mr. Hamilton drew up some suggestions for the establishment of a Maori museum, which were laid upon the table of the House (Journals of the House of Representatives, G.-8, 1902).

It was soon found by experience that the Act as passed was not effective, and it became necessary to introduce an amending Act, which was passed in 1904, and this provided that any Maori antiquity which was exported contrary to the provisions of the Act became forfeited to the King.

Several permits have been issued by the Colonial Secretary under the regulation for the removal of articles not required for the national collection.

Parliament has passed appropriations for the purchase of specimens, and the following are the chief collections that have been offered under the provisions of the Act and acquired by the Government:—*Hill Collection*, in two instalments; mainly representing the ethnology of the people between Napier and East Cape. *Butterworth Collection*: A selection from the late Mr. Butterworth's stock at New Plymouth, representing from Mount Egmont northwards. *Hammond Collection*: Between Waitotara and Mount Egmont. *Handley Collection*: From the Wanganui District. *Fischer Collection*: From East Cape northwards.

Many important donations have been received, notably some historical carvings of great interest by Tukino te Heuheu, of Tokaano; a fine canoe, formerly on the Wairarapa Lake, by Ani te Hiko; and an old dug-out canoe from the Taieri, by Judge Chapman.

A number of deposits have also been made, including the collection made by Mr. Hamilton before his appointment as Director.

A number of valuable articles are now under offer.

From Major-General Robley has been purchased a collection of seventy sketches made by him on the east coast of the North Island during the war of 1865.

Arrangements have been made to get some casts made of some old carvings that cannot be acquired.

The Director has altered the general arrangement of the present Museum so as to leave the main hall entirely for specimens of Maori art, the north wing being devoted to New Zealand natural history, and the south wing and the table-cases in the gallery being still occupied by the collection of the Geological Survey.

The Director, assisted by Mr. McDonald, constructed a large model of a Maori village and fortified pa, which represents a typical settlement.

The canoe-hull presented from the Wairarapa has also been fitted with topsides

and carvings, but is not yet finished, owing to the difficulty of procuring the necessary feathers and cord.

Two new cases have replaced several small ones on the eastern side of the main hall—one is devoted to canoe-ornaments and articles connected with fishing, the other to carvings, &c., connected with houses and domestic operations. A number of the carvings will be figured and described in the later pages of the report.

About four hundred photographs of specimens in the Museum have been taken in a new photographic studio constructed from a portion of the building formerly used by the Taxidermist.

A successful attempt to model a life-sized figure representing a well-tattooed Maori chief has been made by Mr. J. McDonald, who is now attached to the Museum staff as Draughtsman. It is hoped to have some groups of these figures so as to display to the best advantage the splendid collection of Maori mats and clothing now possessed by the Museum.

Some attention has been paid to the collection of specimens illustrating the early history of the colony, and the nucleus of an exhibit is shown in one case at the south end. From the Under Colonial Secretary has been received casts of the seals of the former provincial districts of New Zealand. The Director has also deposited his collection of the copper tokens formerly current in this colony.

A number of paintings and engravings illustrating Maori life and scenes have been acquired, and a set of the principal plates in Angas's well-known work has been framed and printed labels affixed describing the plates. These portraits of celebrated personages in Maori history attract much attention.

Much material has been collected for a monograph on fishing and fishing implements of the Maoris, and it was intended to publish it in this Bulletin, but it is found that it will require a Bulletin to itself.

A very representative collection of greenstone ornaments has been made, but it cannot be set out, as the present building is not sufficiently protected from attacks from burglars; and it is much to be regretted that so many valuable articles—many which could not be replaced—are in an old wooden building at the mercy of fire. The Government have, however, under consideration the question of making suitable provision for the safe custody of the collections, and will no doubt do what is necessary as soon as possible.

There is a full card catalogue of all the Maori collection, which now contains over 2,500 specimens.

Although the National Maori Museum has claimed most of the time of the Director, some valuable work has been done in the natural-history collection. Mr. H. Suter was specially engaged for three months in a careful examination of the

collection of New Zealand Mollusca, and the result appears in a special report in another portion of this Bulletin, the whole of the shells on exhibition being remounted, freshly labelled, and largely added to.

Mr. E. Jennings, the Taxidermist of the Otago Museum, was specially engaged for three months in the mounting of the New Zealand shell collection and in examining the collection of bird-skins and placing the mounted collection of New Zealand birds on uniform stands. Card catalogues were made by Mr. Freyberg, the cadet, of all the New Zealand birds stuffed and in skins, and of the foreign birds. Mr. Freyberg also packed a number of collections which have had to be withdrawn from exhibition.

The committee set up by the Australasian Association for the Advancement of Science to report on the deep-sea fauna of the New Zealand coast has agreed to deposit all type specimens of new species in the Colonial Museum, and I have already received several types.

A new case has been provided for twelve specimens of the tuatara lizard, specimens being obtained from Stephen Island.

Some excellent skeletons of the interesting extinct birds of the Chatham Islands have been purchased from Mr. H. H. Travers, and are now being set up.

#### HERBARIUM.

It will be necessary to take in hand a thorough examination of the large number of specimens constituting the herbarium. As a commencement, card boxes have been obtained and the present cabinets altered to admit them. The boxes are similar to those in use in Sydney. The specimens appear to be in a very bad condition. The large collection of New Zealand plants made by the late Mr. Colenso has been deposited in the Museum herbarium by the Hawke's Bay Philosophical Society, and will require some accommodation. There is no room at present for storage, and I regret to find that a large and valuable collection of 28,000 plants presented by the Trustees of the British Museum in 1876 is still in the original cases. Fortunately, I find that the only case that I have opened is in perfect condition ; still it is not creditable that so fine a collection should be sealed up and quite inaccessible.

#### CHANGE IN HOURS DURING WHICH MUSEUM IS OPEN TO PUBLIC.

Formerly the Museum was closed on all public holidays. It is now closed to the public on Christmas Day, Good Friday, and all Mondays, excepting when a public holiday falls on a Monday.

The Museum is open to the public on other week-days from 10 a.m. to 4 p.m., and on Sundays from 2 p.m. to 4 p.m.



## THE MARINE MOLLUSCA OF NEW ZEALAND.

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SOME of the first collections of natural history made in New Zealand consisted largely of shells collected on the shores of the North Island, which we find that the early voyagers took home with them for their cabinets of curios and for the investigation of the scientists.

Collections were made as early as the 6th October, 1769, in the Bay of Islands, and also a little later in Queen Charlotte Sound, by Sir Joseph Banks and Dr. Solander during Cook's first voyage. The two Forsters, who accompanied Cook's second voyage to New Zealand, collected between the end of March and the beginning of June, 1773, in Dusky Bay and Queen Charlotte Sound, and again in October and November of 1773 and 1774, and on the third voyage from the 12th to the 27th February, 1777. The shells were described and figured in several publications, and Von Martens has written a critical review of the species described as collected in Cook's voyages, in the "Malazoologische Blätter," 1872, pp. 12-26.

The magnificent atlas of Dumont d'Urville's "Voyage de l'Astrolabe," made in the year 1826-29, contains many engravings of New Zealand shells.

A useful list of Mollusca is given in Dieffenbach's "Travels in New Zealand," published in 1843, completed by Dr. J. E. Gray.

Tate also gives a list of about thirty species in his book, published in 1838.

From this time reports of expeditions, such as the United States Exploring Expedition (1838-42), the "Novara" Expedition (1857-59), and the "Challenger"

Expedition have been published, and a band of zoologists in New Zealand and in other countries have collected and described a large number of species.

The collection in the Colonial Museum as it stood in 1904 was carefully examined in detail by Mr. Suter, and a record made of every tablet (390), the number of specimens thereon, the locality (when given); and all type specimens were recorded as such, and marked on the tablet with a red-paper mark.

The specimens were renamed when necessary in accordance with the recently published "Index Faunæ Novæ-Zealandiæ," and the fresh manuscript label fastened underneath the original tablet, which was also numbered in accordance with the list.

The preliminary examination was finished in May, 1904, and then several type specimens more or less damaged were withdrawn from the exhibition series and placed in the large shell-cabinet in the Director's office.

The Director was fortunate in obtaining permission from the trustees of the late Charles Traill to examine a large collection made in various parts of New Zealand many years ago. It was desired by the trustees that the collection should be examined with a view to it being offered for sale. It was arranged that the boxes should be unpacked at the Museum and examined, and a rough catalogue made. Permission was given to take any specimens that were required for the extension of the Museum collection. The collection was of special value and interest, inasmuch as Mr. Traill had probably done more dredging on the coasts than any one else. The collection was found to contain about 10,500 specimens, and 155 specimens were taken from it for the Museum, for which thanks are due to the trustees.

The newly appointed Director (Mr. Hamilton) also placed his private collection at Mr. Suter's disposal, and 1,384 specimens were added to the Museum collection, the result being that at the time Mr. Suter finished his work the number of species and varieties had risen from 331 in the old collection to 462, or an increase of more than a third. Since that date donations of valuable specimens not represented in the collection have been received from Mr. H. Suter and Miss Mestayer, and a number of types of new species from Mr. C. Hedley and Mr. R. Murdoch. There is also a good deal of material in hand that will probably yield interesting results when examined.

At the last meeting of the Australasian Association for the Advancement of Science, held in Dunedin in 1904, a committee was set up for the biological and hydrographical study of the New Zealand coast—consisting of Captain Hutton, Dr. Chilton, Professor Thomas, Mr. Hamilton, and Dr. Benham—"to initiate a biological and hydrographical survey of the continental shelf of New Zealand by dredging and

sounding." Two or three dredging excursions have been made in rather unfavourable weather, but with very encouraging results, off Cuvier Island, in 110 fathoms. The specimens are now being worked out, and it has been arranged that all types of new species shall be placed in the Colonial Museum.

The following extracts from the preface by Sir James Hector to Captain Hutton's "Catalogue of the Marine Mollusca of New Zealand," published in 1873, will give the best account of the formation of the Museum collection, and a record of those who assisted in bringing it together :—

" The collection of New Zealand shells now [1873] in the Colonial Museum, and on which the following catalogue is chiefly founded, was commenced by a small number of species transferred to the Museum by the New Zealand Society. These were soon afterwards extensively added to by Mr. Charles Traill, who collected on various parts of the coast, from the North Cape to Stewart Island, and also in the Chatham Islands. Mr. Traill devoted much time to the mounting and general arrangement of the shells, but the first attempt at their classification was made by Mr. Edwin Stowe, who in 1870 prepared a catalogue, and determined many of the genera and a few species. Mr. Stowe also contributed a large number of duplicates, which will be useful for exchanges, and added a few new species found in the vicinity of Wellington. The collection has also been enriched by some interesting species found in Auckland by Mr. T. Kirk, and by Mr. H. H. Travers in the Chatham Islands.

" Besides the foregoing, the collections have been added to by the various members of the Geological Survey Department, and by private donations, which have been duly acknowledged in the annual reports of the Museum.

" Most of the collections have been made on the sea-shore, and consist chiefly of such shells as are cast up on the beach by storms, or which inhabit the rocks between tide-marks. Dredging has only been tried in a few instances, but generally with good results. To Captain Fairchild, of the Government p.s. 'Luna,' the Museum is indebted for the result of several casts in the Hauraki Gulf and in the Wanganui Bight. Mr. Traill used the dredge a few times in the northern district and in Stewart Island, and a few deep casts were obtained by myself in the wonderful sounds and inlets of the west coast of Otago. These imperfect attempts have been so far encouraging that we may be sure that systematic dredging will give most satisfactory results to conchologists; and there is also ample work for observers in determining the geographical distribution of our shells, and the relative prominence of species on different parts of the coast, which is a point of some importance to the geologist in investigating the Later Tertiary strata."

The time has now come for the investigation of the fauna of the deeper waters on the coast, and especially below the 100-fathom line, and in connection with the visit of the members of the Australasian Association for the Advancement of Science to Dunedin, in 1904, Mr C. Hedley, of the Australian Museum, Sydney, with the assistance of Mr. A. Hamilton and Dr. Benham, and the co-operation of Mr. Haligan, of the Public Works Department, Sydney, organized a deep-sea dredging expedition, the Harbour Board very generously putting the "Koputai" at their disposal.

The expedition was an interesting one particularly on account of the fact that this is the first work of the kind undertaken with the 100-fathom line on the New Zealand coast, with the exception of one or two hauls made by the "Challenger" many years ago. The expedition was the direct outcome of the resolution passed by the Science Congress that a committee, consisting of Captain Hutton, Dr. Chilton, Professor Thomas, Mr. Hamilton, and Dr. Benham, be appointed to initiate a biological and hydrographical survey of the continental shelf of New Zealand by dredging and sounding, and that a small grant be placed at their disposal.

The first attempt to carry out this work failed on account of the heavy sea running, the steamer having to turn back; but the next morning a start was made from Port Chalmers at 5 o'clock, the party including Professor Benham, Mr. Hedley, Professor Kirk, and Mr. Jennings, of the Otago University (Messrs. Hamilton and Haligan not being this time present), and also two officers of the s.s. "Rangatira," with patent sounding apparatus. The day was fine, but a fairly heavy sea was still running, the result being that the tug drifted rapidly and operations could not be carried on with as much ease or success as might have been desired.

What is known as the continental shelf, the rapid descent to deep water found round all coasts more or less, lies at the Heads within easy access, to reach it a direct run of not more than twenty miles out to sea being necessary. Fifty miles further north the shelf lies very much further out.

The "Koputai" was steamed twelve to fifteen miles out, when the first cast was made with Mr. Hedley's specially devised sea-bottom trawling apparatus that he has used with much success on the Australian coast. Unfortunately the wire rope attached contained some fathoms of old rope, which failed to stand the strain caused by a sudden jerk resulting from the rolling of the tug when the line was being hauled in, the consequence being that the trawling-bucket was left for good at the bottom. Another cast was then made a little further out and at a somewhat greater depth, a small net being used, into which sacking was put to retain the sand. When this was hauled up, however, it was evident that the force of the water had pretty well

washed out the contents of the net, all that was left being a small quantity of sand and shells and one very interesting annelid about 1 in. long. This, however, proved the most successful cast as it turned out. A sounding was taken shortly after this, but, unfortunately, here again, through the twisting of the wire rope or some such cause, the line parted, with the loss of the sounding gear and lead, the depth recorded being apparently something like 120 fathoms. Finally a third attempt at trawling was made, a larger net being used. No satisfactory result was achieved, however, as the net had evidently turned over and over while being hauled up, being only adapted for shoal work. Realising that their apparatus was not sufficiently effective, and time not permitting of further trials, the party then desisted from their efforts, and the tug was headed for Port Chalmers, arriving there about 4.30 p.m.

That further investigations in a similar direction will be made later on goes without saying, and the committee is in no way discouraged at its comparative non-success. Needless to say, what spoil was secured was carefully preserved for examination.

LIST OF NEW ZEALAND MARINE MOLLUSCA IN COLONIAL MUSEUM (ARRANGED IN ORDER OF THE "INDEX NOVÆ-ZEALANDIÆ," WITH ADDITIONS).

[Specimens in collection previous to 1904 marked \*; specimens added since that date marked †; and specimens from the Suter collection marked ‡. The numbers refer to the manuscript catalogue.]

Class C E P H A L O P O D A.

Order OCTOPODA.

Fam. OCTOPODIDÆ.

\* *Octopus* = *Polypus*, sp. Wellington. One specimen, in alcohol. (No. 1.)

\* *Octopus*, sp. Wellington. One specimen, in alcohol. (No. 2.)

Fam. ARGONAUTIDÆ.

\* *Argonauta argo*, L. Portland Island. (*Type* of *A. bulleri*, T. W. Kirk.) C. H. Robson. One specimen. (No. 3.)

\* *Argonauta nodosa*, Sol. Portland Island. (*Type* of *A. gracilis*, T. W. Kirk.) C. H. Robson; four specimens. † Hamilton coll.; one specimen. (No. 4.)

Fam. OMMASTREPHIDÆ.

\* *Todarodes sloanii*, Gray. Wellington. One pen. (No. 5.)

\* *Architeuthis verrillii*, T. W. Kirk. Portion of arms and beak, in spirit. (No. 5A.)

\* *Architeuthis kirki*, Robson. Pen. (No. 5B.)

\* *Architeuthis longimanus*, T. W. Kirk.

\* *Steenstrupia stockii*, T. W. Kirk. Pen. (No. 5C.)

Fam. LOLIGINIDÆ.

\* *Sepioteuthis bilineata*, Q. and G. Wellington. One pen. (No. 6.)

Fam. SEPIIDÆ.

\* *Sepia apama*, Gray. Loc. (?). One pen, partly broken. (No. 7.)

Fam. SPIRULIDÆ.

\* *Spirula peroni*, Lam. (*S. spirula*, Linné). Wellington. Five shells. (No. 8.)

Class G A S T E R O P O D A.

Order PULMONATA.

Sub-order BASOMMATOPHORA.

Fam. AMPHIBOLIDÆ.

\* *Amphibola crenata*, Martyn. Wellington. (No. 32.)

Fam. AURICULIDÆ.

\* *Tralia australis*, Q. and G. Loc. (?). Five specimens (No. 33). † Traill; eight specimens (No. 712).

\* *Tralia costellaris*, H. A. Adams. Loc. Auckland. Four specimens (No. 34). † H. coll.; sixteen specimens (No. 410).

\* *Marinula filholi*, Hutt. Lyall Bay. H. coll. Eight specimens (live shells). (No. 252.)

## Sub-order TECTIBRANCHIA.

## Fam. SIPHONARIIDÆ.

- \* *Siphonaria obliquata*, Sow. Loc. (?). (*S. die-menensis* of Hutton). Four specimens (No. 35). † Miss M. Mestayer; two specimens (No. 36). † H. coll.; four specimens (No. 411).
- \* *Siphonaria australis*, Q. and G. Loc. (?). (The larger of the two was taken for *S. denticulata*, Q. and G., by Captain Hutton.) Two specimens (No. 37). † Q. and G.; four specimens (No. 721).
- \* *Siphonaria zelandica*, Q. and G. Loc. (?). (This was taken for *S. funiculata*, Reeve, by Captain Hutton.) Three specimens. (Nos. 38, 39, and 40.)
- \* *Siphonaria tristensis*, Sow. West entrance, Carnley Harbour, Auckland Islands. Four specimens. (No. 251.)
- \* *Gadinia nivea*, Hutt. Wellington. Four specimens. (No. 41.)

## Fam. APLYSIIDÆ.

- \* *Tethys tryoni*, Meinertzhagen. Napier. (*Co-types.*) Three specimens (No. 44). † H. coll.; four specimens (No. 412).
- \* *Tethys hamiltoni*, T. W. Kirk. Napier. One specimen (No. 42). † One specimen (No. 43).

## Fam. PHILINIDÆ.

*Philine aperta*, L. Loc. (?). (*P. angasi*, Crosse (?), of C.M.M.N.Z.) (Nos. 53 and 54.)

## Fam. AKERATIDÆ.

- \* *Haminea zelandiae*, Gray. Loc. (?). (Hutton's *H. obesa*, Sow.) Two specimens. (No. 45.)

## Fam. BULLIDÆ.

- \* *Bulla australis*, Gray. Loc. (?). (Hutton's *B. quoyi*, Gray, C.M.M., 52.) One specimen. (No. 46.)

## Fam. SCAPHANDRIDÆ.

- \* *Cylchna arachis*, Q. and G. Waikanae. (*Types* of T. W. Kirk's *C. zelandica*.) Four specimens. (No. 47.)
- \* *Cylchna striata*, Hutt. Loc. (?). (Hutton's *types.*) Three specimens (No. 48). † H. coll. (No. 414.)

## Fam. ACTÆONIDÆ.

- \* *Actæon kirki*, Hutt. Omaha. (Hutton's *type.*) One specimen (No. 49). One specimen (No. 50). (*Type* of *Buccinulus graulis*, T. W. K.)
- \* *Solidula huttoni*, T. W. Kirk. Waikanae. (Kirk's *type.*) One specimen. (No. 51.)
- \* *Bullinula scabra*, Gmel. (Traill). Two specimens. (No. 709.)

## Fam. CAVOLINIIDÆ.

- \* *Cavolinia tridentata*, Forskal. (Index, 70.)

## Sub-class S T R E P T O N E U R A .

## Sub-order PLATYPODA.

## a. TOXOGLOSSA.

## Fam. TEREBRIDÆ.

- \* *Terebra tristis*, Desh. Auckland. (*Types* of Hutton's *Cerithium kirki*, C.M.M., 27.) Three specimens (No. 55). † H. coll.; two specimens (No. 415). † Three specimens (No. 723).

## Fam. CONIDÆ.

## Sub-fam. PLEUROTOMINÆ.

- \* *Drillia laevis*, Hutt. Stewart Island. (*Type* of *Pleurotoma laevis*, Hutt.) One specimen (No. 56). † H. coll.; two specimens (No. 416).

## Sub-fam. CLAVATULINÆ.

- \* *Surcula novæ-zealandiæ*, Reeve. Loc. (?). Two specimens (No. 57). † H. coll.; three specimens (No. 417).

- \* *Surcula trailli*, Hutt. Stewart Island (24 fath.). (*Type* of *Pleurotoma trailli*, Hutt., C.M.M., 11.) One specimen. (No. 58.)

- \* *Surcula albula*, Hutt. Stewart Island. (*Type* of *Pleurotoma albula*, Hutt., C.M.M., 12.) One specimen. (No. 59.)

- \* *Surcula cheesemani*, Hutt. Auckland. (*Co-type* of *Drillia cheesemani*, H.) One specimen (No. 60). † Three specimens (No. 725).

- † *Surcula varians*, Hutt. Dunedin. H. coll. Five specimens. (No. 418.)

## Sub-fam. MANGILIINÆ.

- † *Mangilia dictyota*, Hutt. Lyall Bay. H. coll. (No. 419.)

- † *Mangilia flexicostata*, Sut. (*Co-types.*) H. coll. Three specimens. (No. 432.)

- \* *Clathurella sindlairi*, E. A. Smith. Stewart Island. (*Type* of *Daphnella (Mangelia) letourneuxiana*, Crosse, C.M.M., 12.) Two specimens (No. 61); two specimens (No. 62); Wellington. † H. coll. (No. 420); Dunedin.

- † *Clathurella subabnormis*, Sut. Lyall Bay. H. coll. (No. 421.)

- † *Clathurella nodicincta*, Sut. Lyall Bay. H. coll. Two specimens. (No. 422.)

- † *Clathurella epentroma*, M. (*Types.*) Five specimens. (No. 757.)

- † *Clathurella epentroma*, var. *whangaroensis*, Mur. (*Types.*) H. coll. Two specimens. (No. 758.)

- † *Daphnella lymneiformis*, Kiener. H. coll. One specimen. (No. 433.)

- † *Daphnella substrata*, Sut. (Placed in genus *Mitromorpha* by Hedley.)

## Fam. CANCELLARIIDÆ.

- \* *Cancellaria trailli*, Hutt. Stewart Island. (*Type.*) One specimen (No. 63). † H. coll.; three specimens (No. 425).

## b. RACHIGLOSSA.

## Fam. MURICIDÆ.

- \* *Murex zelandicus*, Q. and G. Waikanae. Four specimens (No. 64); one specimen, young (No. 69).
- \* *Murex octogonus*, Q. and G. Waikanae. One specimen. (No. 65.)
- † *Murex octogonus*, var. *umbilicata*, J. T. Woods. Traill. One specimen. (No. 708.)
- \* *Murex angasi*, Crosse. Wellington. One specimen. (No. 66.)
- \* *Murex eos*, Hutton. Bay of Islands. (Hutton's type.) One specimen (No. 67); three specimens (No. 68).
- \* *Purpura succincta*, Mart. Loc. (?). Two specimens. (No. 70.)
- \* *Purpura striata*, Mart. Chatham Islands. (*Succincta*, C.M.M., 11.) Three specimens (No. 71). † H. coll. (No. 427).
- \* *Purpura striata*, var. *squamata*, Hutton. Loc. (?). (*Rugosa*, C.M.M., 11.) Two specimens. (No. 72.)
- \* *Purpura scobina*, Q. and G. Wellington. Three specimens. (No. 73.)
- \* *Purpura scobina*, var. *albomarginata*, Desh. Wellington. (Quoyi, Reeve, C.M.M., 17.) Four specimens. (No. 74.)
- \* *Purpura haustrum*, Mart. Chatham Islands. Two specimens. (No. 75.)
- \* *Trophon duodecimus*, Gray. Loc. (?). Two specimens (No. 76). † Three specimens (No. 728).
- \* *Trophon ambiguus*, Phil. Stewart Island. (*Murex lyratus*, Cam. C.M.M., 7.) Three specimens (No. 77). (*Fusus stangeri*, Gray, C.M.M., 9); loc. (?); two specimens (No. 78). † H. coll.; four specimens (No. 428). † Traill; three specimens (No. 450).
- † *Trophon ambiguus*, Phil. (Var. *pumila*, Sut.) H. coll. (No. 429.)
- † *Trophon patens*, H. and J. South Island. H. coll. Eight specimens. (No. 430.)
- † *Trophon paivæ*, Crosse (*T. hanleyi*, Angas). Auckland. (*Fusus corticatus*, sp. nov., C.M.M., 9.) One specimen (No. 79). † C. Freyberg; Island Bay; one specimen (No. 424).
- \* *Trophon plebejus*, Hutton. Loc. (?). (*Types of Fusus plebejus*, Hutton.) Three specimens (No. 80). † H. coll. (No. 431).
- \* *Trophon inferus*, Hutton. Stewart Island. (*Type of Fusus inferus*, Hutton.) One specimen (No. 81). † Traill; four specimens (No. 446).
- \* *Trophon cheesemani*, Hutton. West coast, North Island. Four specimens (No. 82). † Two specimens (No. 729).
- † *Trophon curta*, M. (*Types.*) Twenty specimens. (No. 770.)

## Fam. COLUMBELLIDÆ.

- † *Columbella choava*, Reeve. Mokohinau. H. coll. Ten specimens. (No. 434.)
- \* *Columbella huttoni*, Sut. Stewart Island. (*Types of Lachesis sulcata*, Hutton, C.M.M., 12.) Two specimens. (No. 83.)
- † *Columbella transitans*, M. (*Types.*) Ten specimens. (No. 763.)
- † *Columbella paxillus*, M. (*Types.*) Ten specimens. (No. 764.)
- † *Columbella saxatilis*, M. (*Types.*) Two specimens. (No. 765.)

## Fam. BUCCINIDÆ.

- \* *Siphonalia nodosa*, Mart. Wellington. (No. 85.) Var. B; Cook Strait (*type of Fusus nodosus*, var. B, C.M.M., 11); one specimen (No. 86). Var. C; loc. (?) (*types of var. C*, Man. N.Z. Moll., 51); two specimens (No. 87).
- \* *Siphonalia mandarina*, Ducl. Collingwood. (*Fusus mandarinus*, Ducl., C.M.M., 8.) One specimen (No. 88). † H. coll.; two specimens (No. 435). † Traill; one specimen (No. 436). † Traill; North Island; six specimens (No. 469).
- \* *Siphonalia mandarina*, Ducl., var. *valedicta*, Watson. Collingwood. (*Fusus australis*, Quoy, C.M.M., 8.) One specimen. (No. 84.)
- \* *Siphonalia dilatata*, Q. and G. Loc. (?). (*Fusus dilatatus*, Quoy, C.M.M., 8.) One specimen. (No. 89.)
- \* *Cominella maculata*, Mart. Chatham Islands. (*Buccinum maculatum*, Mart., C.M.M., 14.) Two specimens (No. 90). † Traill; three specimens (No. 437). \* Var. B. (*type of var. B*, C.M.M., 14); one specimen (No. 91). † Var. B.; Traill; three specimens (No. 438).
- \* *Cominella maculosa*, Mart. Loc. (?). (*Buccinum testudinalis*, Quoy, C.M.M., 15.) Two specimens. (No. 92.)
- \* *Cominella nassoides*, Reeve. Stewart Island. (*Buccinum zealandicum*, Reeve, C.M.M., 14.) Two specimens (No. 93). † Traill; four specimens (No. 445). \* Var. B.; Chatham Islands; two specimens (No. 94).
- \* *Cominella lurida*, Phil. Loc. (?). (*Bucc. costatum*, Quoy, C.M.M., 14.) Three specimens (No. 95). † H. coll.; four specimens (No. 439).
- \* *Cominella virgata*, H. and A. Adams. Loc. (?). (*Bucc. lavigatum*, Quoy, C.M.M., 14.) Two specimens (No. 96). † Three specimens (No. 730).
- \* *Cominella huttoni*, Kobelt. Auckland. (*Buccinum luridum*, Hutton, C.M.M., 14.) Two specimens. (No. 97.)
- † *Cominella zealandica*, Reeve. Wellington. H. coll. Two specimens. (No. 441.)

## Fam. BUCCINIDÆ—continued.

- \* *Euthria lineata*, Mart. Loc. (?). Three specimens (No. 98). † Traill; Stewart Island; six specimens (No. 442).
- \* *Euthria lineata*, var. *traversi*, Hutton. Chatham Islands. (Type specimen.) One specimen (No. 99). † H. coll.; four specimens (No. 443).
- † *Euthria lineata*, var. *pertinax*, Von Martens. Stewart Island. Six specimens. (No. 444.)
- \* *Euthria vittata*, Q. and G. Chatham Islands. (Type of *Fusus bicinctus*, Hutton, C.M.M., 10.) Two specimens (No. 101). † Six specimens (No. 731).
- † *Euthria antarctica*, Reeve. Stewart Island. Traill. Seven specimens. (No. 447.)
- \* *Euthria littorinoides*, Reeve. Loc. (?). (*Fusus lineatus*, Q. and G.; *linea*, Mart., C.M.M., 10.) Three specimens (No. 102). † H. coll.; seven specimens (No. 448).
- † *Euthria striata*, Hutton. H. coll. Five specimens. (No. 449.)
- \* *Euthria martensiana*, Hutton. North Island. (*F. littorinoides*, Reeve, C.M.M., 10.) Four specimens. (No. 100.)

## Fam. FASCIOLARIIDÆ.

- \* *Fusus spiralis*, A. Ad. Kapiti, Cook Strait. (*Fusus pensum*, Hutton, C.M.M., 8.) One specimen. (No. 103.)

## Fam. MITRIDÆ.

- † *Mitra melaniana*, Lam. Mokohinau. H. coll. Two specimens. (No. 451.)
- \* *Mitra obscura*, Hutton. Bay of Islands. (Type.) One specimen (No. 104). † Var. *mokohinau*; H. coll.; two specimens (No. 452).
- † *Mitra albopicta*, E. A. Smith. H. coll. Two specimens. (No. 453.)
- \* *Vulpecula rubiginosa*, Hutton. Chatham Islands. (Types of *Columbella (Atilia) rubiginosa*, Hutton, C.M.M., 20.) Two specimens. (No. 105.)
- † *Vulpecula hedleyi*, M. Whangaroa. (Type.) One specimen. (No. 769.)

## Fam. VOLUTIDÆ.

- \* *Scaphella gracilis*, Swains. Loc. (?). (Type of *Voluta subplicata*, Hutton.) One specimen. (No. 106.)
- \* *Scaphella pacifica*, Lam. = *S. arabica*, Mart. Loc. (?). Two specimens, one very large. (No. 107.)
- \* *Scaphella pacifica*, var. *elongata*, Swains. Cape Farewell. Three specimens, one showing vertical section. (No. 108.)

## Fam. MARGINELLIDÆ.

- \* *Marginella muscaria*, Lam. Loc. (?). (Type of *Erato lactea*, Hutton, Man. N.Z. Moll., 13.) Dr. Sinclair. One specimen. (No. 109.)
- \* *Marginella pygmaea*, Sow. Wellington. Three specimens. (No. 110.)
- \* *Marginella infans*, Reeve. Stewart Island. (Types of *Marginella albescens*, Hutton, C.M.M., 19.) Three specimens (No. 111.) \* Wellington; three specimens (No. 112). † H. coll.; Stewart Island; eight specimens (No. 456).
- † *Marginella mustelina*, Angas. Mokohinau. H. coll. Three specimens. (No. 461.)

## Fam. OLIVIDÆ.

- \* *Ancilla australis*, Sow. Loc. (?). Two specimens. (No. 113.)
- † *Ancilla mucronata*, Sow. H. coll. Three specimens. (No. 457.)
- \* *Ancilla pyramidalis*, Reeve. Loc. (?). One specimen. (No. 114.)
- † *Ancilla bicolor*, Gray. H. coll. One specimen. (No. 458.)
- † *Ancilla rubiginosa*, Swains. H. coll. One specimen. (No. 459.)
- † *Ancilla lata*, Hutton. H. coll. Six specimens. (No. 460.)

## c. GYMNOGLOSSA.

- Fam. PYRAMIDELLIDÆ.
- \* *Odontostomia angasi*, Tryon. Stewart Island. (Types of *Odontostomia lactea*, Angas, C.M.M., 22.) Two specimens. (No. 115.)
- † *Odontostomia impolita*, Hutton. Bounty Island. H. coll. Two specimens. (No. 462.)
- † *Odontostomia procima*, M. (Types.) Ten specimens. (No. 767.)
- † *Odontostomia vestalis*, M. (Type.) One specimen. (No. 768.)
- \* *Turbanilla zealandica*, Hutton. Stewart Island. (Types of *Chemnitzia zealandica*, Hutton, C.M.M., 22.) Three specimens (No. 116.) † H. coll.; ten specimens (No. 463.)

## Fam. EULIMIDÆ.

- † *Eulima treadwelli*, Hutton. Stewart Island. H. coll. Five specimens. (No. 464.)
- † *Eulima paxillus*, Hedley. Stewart Island. H. coll. Twelve specimens. (No. 465.)
- † *Leiostraca murdochii*, Hedley. Stewart Island. H. coll. Eleven specimens. (No. 466.)

## d. TÄNIOGLOSSA.

## Fam. LOTORIIDÆ.

- \* *Lotorium olearium*, L. Loc. (?). (Correct name, *L. costatum*, Born; type of *Triton (Simpulum) acclavis*, Hutton, C.M.M., 13.) One specimen (No. 117). † Traill; North Island; four specimens (No. 467).
- \* *Lotorium spengleri*, Chemn. Loc. (?). One specimen (No. 118). † Traill; North Island; six specimens (No. 468).
- † *Lotorium rubicundum*, Perry. Whangaroa. Traill. One specimen. (No. 565.)
- † *Apollo argus*, Gmel. H. coll. and Traill. Seven specimens. (No. 470.)
- \* *Apollo australasia*, Perry. Loc. (?). One specimen. (No. 119.)

## Fam. CASSIDIDÆ.

- \* *Semicassis (Cassidea) labiata*, Perry. Omaha. T. Kirk. One specimen. (No. 120.)
- \* *Semicassis pyrum*, Lam. Loc. (?). Three specimens (No. 121). \* C. Hardy; Worsell Bay; one specimen (No. 122).

## Fam. DOLIIDÆ.

- \* *Dolium variegatum*, Lam. Tauranga. Three specimens. (No. 123.)

## Fam. CYPRÆIDÆ.

- \* *Trivia europaea*, Montagu. Bay of Islands. (*Coccinella*, Lam., C.M.M., 25.) One specimen. (No. 125.)
- \* *Trivia australis*, Lam. Hauraki Gulf. One specimen. (No. 124.)

## Fam. STRUTHIOLARIIDÆ.

- \* *Struthiolaria papulosa*, Mart. Stewart Island. (*S. gigas*, Sow., C.M.M., 24.) One specimen (No. 126). \* *S. nodulosa*, Cam. (C.M.M., 24); loc. (?); one specimen (No. 127). \* Var. B; one specimen (No. 128). † H. coll.; twelve specimens (No. 472).
- \* *Struthiolaria vermis*, Mart. Loc. (?). Two specimens. (No. 129.)
- \* *Struthiolaria tricarinata*, Less. Loc. (?). (*Scutulata*, Desh., C.M.M., 24.) One specimen. (No. 130.)

## Fam. VERMICULARIIDÆ.

- \* *Tenagodes weldii*, T.-Woods. Happy Valley. One specimen. (No. 131.)
- \* *Tenagodes australis*, Q. and G. Loc. (?). (*Siliquaria australis*, C.M.M., 31.) One agglomerate of specimens. (No. 132.)
- \* *Vermicularia lamellosa*, Hutton. Loc. (?). (*Siphonium lamellosum*, Hutton, C.M.M., 30.) One agglomerate of specimens. (No. 133.)
- \* *Vermicularia novæ-hollandiæ*, Rouss. Loc. (?). (*Cladopoda zealandica*, Q. and G., C.M.M., 30.) Two specimens. (No. 134.)

## Fam. TURRITELLIDÆ.

- \* *Turritella rosea*, Q. and G. Loc. (?). One adult specimen and one young specimen. (No. 135.)
- \* *Turritella pagoda*, Reeve. Great Barrier Island. Three specimens. (No. 136.)
- \* *Turritella vittata*, Hutton. (Index, 76.) (Name preoccupied; *Carlotta*, Watson, has to be used.) One specimen.
- \* *Turritella fulminata*, Hutton. Great Barrier Island. (Type.) Five specimens. (No. 138.)
- \* *Turritella kanieriensis*, Harris. Stewart Island. (*Eglisia symmetrica*, Hutton, C.M.M., 30.) Three specimens. (No. 139.)

## Fam. CÆCIDÆ.

- † *Cæcum digitulum*, Hedley. Foveaux Strait and Lyall Bay. H. coll. Four specimens. (No. 717.)

## Fam. MELANIIDÆ.

- † *Melanopsis trifasciata*, Gray. H. coll. Ten specimens. (No. 473.)

## Fam. CERITHIIDÆ.

- † *Planaxis mollis*, S. Three specimens. (No. 733.)
- \* *Triphora angasi*, Crosse. Stewart Island (30 fath.). (*Cerithium (Ino) minimus*, Hutton, C.M.M., 27.) Two specimens. (No. 140.)
- † *Cerithiopsis sarrisa*, M. (Dark shell from Kawhia.) (Types.) Two specimens. (No. 761.)
- \* *Cerithiopsis teredelloides*, Von Martens. Stewart Island. (*Cerithium cinctum*, Hutton, C.M.M., 27.) Two specimens (No. 141). † H. coll.; six specimens (No. 474.)
- \* *Potamides bicarinatus*, Gray. Loc. (?). (*Cerithium bicarinata*, Gray, C.M.M., 26.) Three specimens. (No. 142.)
- \* *Potamides subcarinatus*, Sow. Loc. (?). (*Cerithium subcarinata*, Sow., C.M.M., 26.) Five specimens (No. 143). † Three specimens (No. 734.)
- \* *Potamides alternatum*, Hutton. Tauranga. (Type.) One specimen. (No. 144.)
- \* *Bittium exile*, Hutton. Stewart Island (30 fath.). (Type.) One specimen. (No. 145.)

## Fam. HYDROBIIDÆ.

- † *Potamopyrgus corolla*, Gould. H. coll. Twelve specimens. (No. 476.)
- † *Potamopyrgus antipodum*, Gray. Leith. H. coll. Eight specimens. (No. 478.)
- \* *Potamopyrgus cumingiana*, Fisch. Lake Taupo. Five specimens. (No. 146.)
- \* *Potamopyrgus pupoides*, Hutton. Heathcote Estuary. (Co-types.) (Presented by Captain Hutton.) Many. (No. 147.)

## Fam. RISSOIDÆ.

† *Rissoia huttoni*, Sut. Stewart Island. H. coll. Six specimens. (No. 479.)

† *Rissoia hamiltoni*, Sut. Lyall Bay. H. coll. (No. 480.)

† *Rissoia annulata*, Hutton. Foveaux Strait. H. coll. Two specimens. (No. 481.)

† *Rissoia annulata*, var. *minor*, Sut. Stewart Island. H. coll. Four specimens. (No. 482.)

\* *Rissoia subfuscata*, Hutton. Stewart Island. (Type specimen.) One specimen (No. 148).

\* Type of *R. purpurea*, Hutton; two specimens (No. 149). † H. coll.; Lyall Bay; six specimens (No. 483).

† *Rissoia subfuscata*, var. *micronema*, Sut. Stewart Island. H. coll. Twelve specimens. (No. 484.)

\* *Rissoia cheilostoma*, T.-Woods. Stewart Island. (Type of *Rissoia plicata*, Hutton, C.M.M., 29.) Four specimens (No. 150). † H. coll.; twelve specimens (No. 485).

† *Rissoia cheilostoma*, var. *lyalliana*, Sut. Lyall Bay. H. coll. Twelve specimens. (No. 486.)

† *Rissoia suteri*, Hedley. Foveaux Strait. H. coll. Two specimens. (No. 487.)

† *Rissoia tenella*, M. (Type.) One specimen. (No. 771.)

† *Rissoia microstriata*, M. (Types.) Two specimens. (No. 772.)

† *Rissoia insculpta*, M. (Types.) Three specimens. (No. 773.)

\* *Rissoina rugulosa*, Hutton. Stewart Island. (Types of *Rissoa rugulosa*, Hutton, C.M.M., 28.) Two specimens (No. 151). \* Types of *Eulima chathamensis*, Hutton (C.M.M., 23); Chatham Islands; two specimens (No. 152). † H. coll.; Hauraki Gulf; six specimens (No. 488).

\* *Litorina cincta*, Q. and G. Loc. (?). Three specimens (No. 159). † H. coll.; Port Chalmers; eight specimens (No. 494).

† *Lævilitorina caliginosa*, Gould. Macquarie Island. H. coll. Ten specimens. (No. 495.)

† *Lævilitorina (?) hamiltoni*, Smith. Macquarie Island. H. coll. Ten specimens. (No. 496.)

\* *Risellopsis varia*, Hutton. Stewart Island. (Types of *Adeorbis varius*, Hutton, C.M.M., 35.) Two specimens (No. 160). † Four specimens (No. 737).

† *Risellopsis varia*, var. *carinata*, Kest. H. coll. Six specimens. (No. 497.)

## Fam. SOLARIIDÆ.

† *Solarium luteum*, Lam. Mokohinau. H. coll. Six specimens. (No. 498.)

## Fam. HIPPONYCIDÆ.

\* *Hipponyx*, sp. Loc. (?). (*H. cornucopiae*, Lam., C.M.M., 32.) Two specimens. (No. 161.)

\* *Rissoina olivacea*, Hutton. Lyttelton. (Cotypes presented by Captain Hutton.) Many (No. 153). † H. coll.; loc. (?) (No. 489).

\* *Barlecia rosea*, Hutton. Stewart Island. (Type of *Rissoa rosea*, Hutton, C.M.M., 29.) One specimen (No. 154). † H. coll.; ten specimens (No. 492).

† *Barlecia neozelanica*, Sut. Stewart Island. H. coll. Eight specimens. (No. 490.)

† *Realia tauriculata*, Pfr. Bay of Islands. Traill. Three specimens. (No. 716.)

## Fam. FOSSARIDÆ.

† *Couthouya corrugata*, Hedley. Stewart Island. H. coll. Three specimens. (No. 491.)

## Fam. LITORINIDÆ.

\* *Litorina mauritiana*, Lam. Loc. (?). (Types of *L. diemenensis*, Quoy, C.M.M., 27.) Two specimens (No. 158). † H. coll. Ten specimens (No. 493). † H. coll.; Tauranga; seven specimens (No. 499).

## Fam. CAPULIDÆ.

\* *Calyptraea maculata*, Q. and G. Loc. (?). Five specimens (No. 162). † H. coll.; five specimens (No. 500).

\* *Calyptraea scutum*, Less. Loc. (?). (*Trochita tenuis*, Gray, C.M.M., 32.) Four specimens. (No. 163.)

\* *Crepidula aculeata*, Gmel. Loc. (?). (*Crypta costata*, Lam., C.M.M., 32.) One specimen. (No. 164.)

\* *Crepidula monoxyla*, Less. Loc. (?). (*Crypta costata*, Quoy, C.M.M., 32.) Two specimens (No. 165). † Four specimens (No. 739).

\* *Crepidula crepidula*, L. Loc. (?). (*Crypta unguiformis*, Lam., C.M.M., 32.) Two specimens (No. 166). † H. coll.; five specimens (No. 502).

## Fam. XENOPHORIDÆ.

\* *Xenophora pallidula*, Reeve. Loc. (?). (*Phorus onustus*, Reeve, C.M.M., 31.) One specimen. (No. 167.)

## Fam. TRICHOTROPIDÆ.

*Trichotropis inornata*, Hutton. Stewart Island. (Type.) Two specimens. (No. 168.)

## Fam. MARSENIADÆ.

\* *Marsenia ophione*, Gray. Cook Strait. (*Lamellaria indica*, Leach, C.M.M., 24.) One specimen (No. 169). † H. coll.; five specimens (No. 501).

## Fam. NATICIDÆ.

- \* *Natica zelandica*, Q. and G. Loc. (?) Two specimens (No. 170). † H. coll.; five specimens (No. 503).
- † *Natica australis*, Hutton. H. coll. Five specimens. (No. 504.)
- \* *Natica vitrea*, Hutton. Stewart Island. (*Types.*) Two specimens (No. 171). † H. coll.; four specimens (No. 508).

## e. PTENOGLOSSA.

## Fam. SCALARIIDÆ.

- \* *Scalaria tenella*, Hutton. Loc. (?). (*S. lineolata*, Kien, C.M.M., 22; *S. lyra*, Sow., Man. N.Z. Moll., 70.) Auckland. (*Type.*) One specimen, broken (No. 172). \* Two specimens (No. 173).
- \* *Scalaria philippinarum*, Sow. Wellington. One specimen. (No. 174.)
- \* *Scalaria jukesiana*, Forbes. Wellington. (*Types* of *S. wellingtonensis*, T. W. Kirk.) Three specimens (No. 175). \* Auckland: three specimens (No. 176).
- \* *Scalaria zelebori*, Frfld. Auckland. Two specimens. (No. 177.)

## Fam. JANTHINIDÆ.

- Janthina fragilis*, Lam. Wellington. (*J. ianthina*, L., C.M.M., 61.) One specimen (No. 178). † H. coll.; six specimens (No. 506). † Var. *planospira*, Ad. and Reeve; H. coll.; five specimens (No. 507).
- † *Janthina globosa*, Swains. H. coll. One specimen. (No. 509.)
- \* *Janthina exigua*, Lam. Wellington. Many (No. 179). † H. coll.; many (No. 510).

## Order ASPIDOBRANCHIA.

## Sub-order RHIPIDOGLOSSA.

## Fam. NERITIDÆ.

- \* *Nerita nigra*, Gray. Auckland. (*N. atrata*, Lam., C.M.M., 33.) (*N. melanotragus*, E. A. Smith, should be used.) Four specimens (No. 180). † H. coll.; six specimens (No. 511).
- \* *Turbo helicinus*, Born = *T. smaragdus*, Mart. Wellington. Four specimens. (No. 181.)
- \* *Turbo helicinus*, var. *tricostata*, Hutton. Wellington. (*Types*, *T. smaragdus*, var. B, C.M.M., 33.) Two specimens. (No. 182.)
- \* *Turbo granosus*, Mart. Loc. (?). One specimen (No. 183). \* Wellington; two specimens, young. † H. coll.; seven specimens (No. 512).
- † *Leptothyra fluctuata*, Hutton. Stewart Island. H. coll. Ten specimens. (No. 513.)

## Fam. NERITIDÆ—continued.

- † *Phasianella limbata*, Hutton. Chatham Islands. H. coll. Two specimens. (No. 719.)
- \* *Phasianella huttoni*, Pils. Wellington. (*Barleia flamulata*, Hutton, Man. N.Z. Moll., 81.) One specimen (No. 185). † H. coll.; Bay of Islands; six specimens (No. 559).
- \* *Astralium sulcatum*, Martyn. Loc. (?). One specimen. (No. 186.)
- \* *Astralium sulcatum*, var. *davisii*, Stowe. Cook Strait. One specimen. (No. 187.)
- \* *Astralium heliotropium*, Mart. Hauraki Gulf. Two specimens (No. 188). \* Presented by Captain Fairchild; loc. (?); two specimens, one cleaned (No. 189).
- \* *Astralium* (?) *shandi*, Hutton. Chatham Islands. (*Type* of *Liotia shandi*, Hutton, C.M.M., 35.) Two specimens, young (No. 190). \* Wellington; one specimen (No. 191).

## Fam. TROCHIDÆ.

- \* *Trochus tiaratus*, Q. and G. Loc. (?). Three specimens (No. 192). † H. coll.; five specimens (No. 514.)
- \* *Trochus chathamensis*, Hutton. Chatham Islands. (*Types* ?). Three specimens (No. 193). \* Wellington; three specimens (No. 194). † H. coll.; eight specimens (No. 515).
- † *Trochus oppressus*, Hutton. H. coll. Ten specimens. (No. 516.)
- \* *Trochus viridus*, Gmel. Loc. (?). (*Polydonta tuberculata*, Gray, C.M.M., 36.) Three specimens (No. 195). † H. coll.; five specimens (No. 517).
- † *Trochus ringens*, Menke. H. coll. Three specimens. (No. 518.)
- \* *Monodonta aethiops*, Gmel. Loc. (?). (*Labio zelandicus*, Quoy, C.M.M., 37.) Five specimens (No. 196). † H. coll.; seven specimens (No. 519).
- \* *Monodonta nigerrima*, Gmel. Loc. (?). (*Diloma nigerrima*, L., C.M.M., 38.) Two specimens. (No. 197.)
- † *Monodonta morio*, Trosch. H. coll. Three specimens. (No. 521.)
- † *Monodonta coracina*, Trosch. H. coll. Five specimens. (No. 522.)
- \* *Monodonta lugubris*, Gmel. Loc. (?). (*Labio cingulatus*, Quoy, C.M.M., 37.) Two specimens. (No. 198.)
- † *Monodonta corrosa*, Ad. H. coll. Six specimens. (No. 523.)
- \* *Monodonta corrosa*, var. *undulosa*, Ad. West coast, South Island. (*Types*, *Labio ictori*, Hutton, C.M.M., 37.) Two specimens. (No. 199.)

## Fam. TROCHIDÆ—continued.

- † *Monodonta crinita*, Phil. Stewart Island. H. coll. One specimen. (No. 524.)
- \* *Cantharidus purpuratus*, Mart. Loc. (?). (*C. elegans*, Gmel., C.M.M., 39.) Two specimens (No. 200). † H. coll.; six specimens (No. 525).
- \* *Cantharidus purpuratus*, var. *texturata*, Gould. Wanganui. One specimen. (No. 201.)
- \* *Cantharidus iris*, Gmel. = *C. opalus*, Mart. Loc. (?). (*C. purpuratus*, Lam., C.M.M., 39.) Two specimens (No. 202). \* *C. iris*; three specimens (No. 203). \* Chatham Islands; three specimens (No. 216). † Traill; three specimens (No. 526).
- \* *Cantharidus sanguineus*, Gray. Loc. (?). (*Gibbula sanguineus*, C.M.M., 40.) Five specimens (No. 204). † Ten specimens (No. 527).
- † *Cantharidus sanguineus*, var. *caelata*, Hutton. H. coll. Four specimens. (No. 528.)
- † *Cantharidus sanguineus*, var. *elongata*, Sut. Lyall Bay. (Co-type.) H. coll. One specimen. (No. 529.)
- \* *Cantharidus pruininus*, Gould. Auckland Islands. One specimen. (No. 205.)
- † *Cantharidus pruininus*, var. *perobtusa*, Pils. Macquarie Island. H. coll. Four specimens. (No. 530.)
- † *Cantharidus tenebrosus*, A. Ad. H. coll. Four specimens. (No. 531.)
- \* *Cantharidus tenebrosus*, var. *huttoni*, Smith. Loc. (?). (*Gibbula nitida*, Ad. and Ang., C.M.M., 40.) Five specimens (No. 206). † H. coll.; eight specimens (No. 532).
- \* *Cantharidus rufozonus*, A. Ad. Wellington. Two specimens. (No. 207.)
- \* *Cantharidus dilatatus*, Sow. Chatham Islands. (Types of *Chrysostoma simulata*, Hutton, C.M.M., 36.) Two specimens (No. 208). † H. coll.; twelve specimens (No. 533).
- \* *Cantharidus pupillus*, Hutton. Lyttelton. (Co-types, presented by Captain Hutton.) Three specimens (No. 209). † H. coll.; Lyall Bay; twelve specimens (No. 534).
- † *Cantharidus fasciatus*, Menke. H. coll. (No. 535.)
- † *Cantharidus conicus*, Gray. H. coll. One specimen. (No. 536.)
- \* *Gibbula nitida*, Ad. and Ang. Loc. (?). (Types of *Chrysostoma inconspicua*, Hutton, C.M.M., 36.) Four specimens (No. 210). † H. coll. Lyall Bay; ten specimens (No. 537).
- \* *Gibbula fulminata*, Hutton. Chatham Islands. (Types of *Chrysostoma fulminata*, Hutton.) Two specimens (No. 211). † H. coll.; fifteen specimens (No. 538).

## Fam. TROCHIDÆ—continued.

- \* *Gibbula rosea*, Hutton. Stewart Island. (Type of *Chrysostoma rosea*, Hutton, C.M.M., 36.) One specimen. (No. 212.)
- † *Gibbula scannata*, Fisch. Brighton, Otago. H. coll. Five specimens. (No. 539.)
- † *Gibbula tasmanica*, Petterd. H. coll. One specimen. (No. 540.)
- \* *Fossarina rimata*, Hutton. Auckland. Four specimens. (No. 213.)
- \* *Monilea egena*, Gould. Auckland. (Type of *Monilea zealandi*, Hutton, C.M.M., 40.) One specimen (No. 214). \* Lyall Bay; three specimens (No. 215).
- † *Calliostoma tigris*, Mart. Traill. Four specimens. (No. 541.)
- \* *Calliostoma punctulatum*, Mart. Loc. (?). (*Turbo (Modelia) granosus*, Lam., C.M.M., 33.) Three specimens (No. 217). \* Wellington; two specimens (No. 218). † H. coll.; six specimens (No. 542).
- \* *Calliostoma selectum*, Chemn. Loc. (?). (*Zizyphinus cunninghami*, Gray, C.M.M., 38.) Two specimens, one Wellington (No. 219). † H. coll.; five specimens (No. 543).
- \* *Calliostoma pellucidum*, Val. Cook Strait. (*Zizyphinus selectus*, Chemn., C.M.M., 38.) One specimen adult, one specimen young (No. 220). † H. coll.; four specimens (No. 544).
- † *Calliostoma spectabile*, A. Ad. Traill. Three specimens. (No. 545.)
- \* *Euchelus bellus*, Hutton. Chatham Islands. (Types.) Two specimens (No. 221). † H. coll.; six specimens (No. 546).
- \* *Euchelus bellus*, var. *iricolor*, T. W. Kirk. Wai-kanae. (Types.) Four specimens (No. 222). † H. coll.; eight specimens (No. 547).
- \* *Euchelus hamiltoni*, T. W. Kirk. Wellington. (Types.) Six specimens. (No. 223.)
- \* *Ethalia zelandica*, H. and J. Loc. (?). (*Rotella zelandica*, Chemn., C.M.M., 35.) Five specimens (No. 224). † H. coll.; twelve specimens (No. 548).

## Fam. CYCLOSTREMATIDÆ.

- † *Leptothyra crassicostata*, M. (Types.) Eight specimens. (No. 762.)

## Fam. HALIOTIDÆ.

- \* *Haliotis iris*, Mart. Loc. (?). One specimen. (No. 225.)
- \* *Haliotis rugoso-plicata*, Chemn. Loc. (?). (*H. australis*, Lam. and Gmel., C.M.M., 40.) One specimen. (No. 226.)
- \* *Haliotis virginea*, Gmel. Chatham Islands. Four specimens (No. 227). † H. coll.; five specimens (No. 549).

## Fam. HALIOTIDÆ—continued.

\* *Haliotis virginea*, var. *huttoni*, Filhol. Auckland Islands. Three bad specimens. (No. 228.)

## Fam. FISSURELLIDÆ.

\* *Fissurella squamosa*, Hutton. Loc. (?). (*Type*.) One specimen. (No. 229.)

\* *Megatebennus moniliferus*, Hutton. Stewart Island (15 fath.). (*Type*.) One specimen (No. 230). Traill; three specimens.

\* *Emarginula striatula*, Q. and G. Chatham Islands. Many. (No. 231.)

\* *Subemarginula parmophoidea*, Q. and G. Chatham Islands. Many. (No. 232.)

\* *Subemarginula intermedia*, Reeve. Loc. (?). (*Tugalia elegans*, Gray, C.M.M., 42.) Two specimens. (No. 233.)

\* *Scutum ambiguum*, Chemn. Loc. (?). (*Parmophorus australis*, C.M.M., 43.) One specimen. (No. 234.)

## Sub-order DOCOGLOSSA.

## Fam. PATELLIDÆ.

\* *Patella tramoserica*, Mart. Loc. (?). Three specimens. (No. 235.)

\* *Patella denticulata*, Mart. Loc. (?). (*P. imbricata*, Reeve, C.M.M., 44.) One specimen. (No. 236.)

\* *Patella stellifera*, Gmel. Loc. (?). (*P. stellifera*, Lam., C.M.M., 44.) Two specimens (No. 237). \* *Nacella stellularia*, Quoy (C.M.M., 45); one specimen (No. 238).

\* *Patella radians*, Gmel. Loc. (?). (*Nacella radians*, C.M.M., 45.) Three specimens (No. 239). † H. coll.; Otago; five specimens (No. 550).

\* *Patella radians*, var. *pholidota*, Less. Loc. (?). (*Nacella radians*, C.M.M., 45.) Two specimens. (No. 240.)

† *Patella radians*, var. *argentea*, Q. and G. H. coll. Eight specimens. (No. 551.)

\* *Patella radians*, var. *affinis*, Reeve. Bluff Harbour. (*Nacella earlii*, Reeve, C.M.M., 45.) Three specimens (No. 241). \* Reeve (?); loc. (?) (*Nacella argentea*, Quoy, C.M.M., 45); five specimens (No. 242).

\* *Patella radians*, var. *flava*, Hutton. Amuri Bluff. (*Types* of *P. flava*, Hutton, C.M.M., 44.) Three specimens (No. 243). † H. coll.; Kaikoura; six specimens (No. 552).

† *Patella radians*, var. *olivacea*, Hutton. Otago. H. coll. Two specimens. (No. 553.)

\* *Patella ornata*, var. *Dill.* Loc. (?). (*Patella marginaria*, Chemn., C.M.M., 44.) Two specimens (No. 244). † H. coll.; three specimens (No. 554).

## Fam. PATELLIDÆ—continued.

\* *Patella ornata*, var. *inconspicua*, Gray. Loc. (?). (*P. marginaria*, Chemn., C.M.M., 44.) One specimen (No. 245). † H. coll.; five specimens (No. 555).

\* *Patella strigilis*, Less. Loc. (?). (*P. inconspicua*, Gray, C.M.M., 43.) Two specimens (No. 246). † H. coll.; Otago; three specimens (No. 556).

\* *Patella strigilis*, var. *redimiculum*, Reeve. West coast, South Island. (*P. pottsii*, Hutton, C.M.M., 44.) One specimen (No. 247). \* Loc. (?); two specimens (No. 248). † H. coll.; Otago; seven specimens (No. 557).

\* *Patella illuminata*, Gould. West entrance, Carnley Harbour, Auckland Islands. Eight specimens (No. 249). † H. coll.; Macquarie Island; five specimens (No. 558).

\* *Patella kermadecensis*, Pils. Kermadec Islands. (Presented by Captain Fairchild.) Eight specimens, one young (No. 250). † A series of seven specimens illustrating growth (No. 756).

## Fam. ACMÆIDÆ.

\* *Acmaea fragilis*, Chemn. Loc. (?). (*Tectura fragilis*, C.M.M., 43.) Four specimens (No. 253). † H. coll.; six specimens (No. 560).

\* *Acmaea pileopsis*, Q. and G. Loc. (?). (*Tectura pileopsis*, C.M.M., 43.) Two specimens. (No. 254.)

† *Acmaea septiformis*, Q. and G. Dunedin. H. coll. Six specimens. (No. 561.)

\* *Acmaea lacunosa*, Reeve. Chatham Islands. (*Fissurella rubiginosa*, Hutton, C.M.M., 42.) Three specimens (No. 255). \* Auckland Islands; one specimen (No. 256). † H. coll.; Chatham Islands; six specimens (No. 562).

\* *Acmaea cantharus*, Reeve. West entrance, Carnley Harbour, Auckland Islands. Five specimens (No. 257). † H. coll.; Macquarie Islands; eight specimens (No. 563).

\* *Acmaea octoradiata*, Hutton. West coast of South Island. (*Type*.) Four specimens (No. 258). \* H. coll.; Foveaux Strait; seven specimens (No. 268).

\* *Acmaea corticata*, Hutton. Wellington. Two specimens (No. 259). \* Auckland Islands; one specimen (No. 260).

† *Acmaea cingulata*, Hutton. H. coll. Three specimens. (No. 564.)

## Class SCAPHOPODA.

## Fam. DENTALIIDÆ.

† *Dentalium nanum*, Hutton. Dusky Sound. H. coll. Nine specimens. (No. 566.)

## Fam. DENTALIIDÆ—continued.

- \* *Dentalium zelandicum*, Sow. Loc. (?). (*D. pacificum*, Hutton, C.M.M., 5.) One specimen. (No. 263.)
- \* *Dentalium huttoni*, T. W. Kirk. Wellington. (Type.) Three specimens. (No. 261.)
- \* *Dentalium ecostatum*, T. W. Kirk. Waikanae. (Type.) One specimen. (No. 262.)
- † *Cadulus spretus*, Tate and May. Dusky Sound. H. coll. Three specimens. (No. 567.)

## Class AMPHINEURA.

## Order PLACOPHORA.

## Fam. CHITONIDÆ.

- \* *Chiton pellisserpentis*, Q. and G. Loc. (?). Two specimens. (No. 264.)
- \* *Chiton canaliculatus*, Q. and G. Loc. (?). Three specimens. (No. 265.)
- \* *Chiton quoyi*, Desh. Loc. (?). (No. 266.) † H. coll.; three specimens (No. 568.)
- † *Chiton sindairi*, Gray. H. coll.; one specimen (No. 569). † Three specimens (No. 747.)
- \* *Chiton limans*, Sykes. Kapiti Island. (*Ch. sulcatus*, Q. and G., C.M.M., 47.) Two specimens, one broken. (No. 267.)
- \* *Chiton*, sp. Loc. (?). (*Chiton sindairi*, Gray, C.M.M., 46, but not that species.) One specimen (No. 269). † H. coll.; Dunedin; six specimens (No. 570.)
- \* *Eudoxochiton nobilis*, Gray. Wellington. (C.M.M., 49.) One specimen. (No. 270.)
- † *Eudoxochiton huttoni*, Pils. H. coll. One specimen. (No. 571.)
- † *Acanthopleura granulata*, Gmel. H. coll. One specimen. (No. 572.)
- \* *Onithochiton undulatus*, Q. and G. Loc. (?). (*Tonicia undulata*, C.M.M., 48.) (No. 271.) † H. coll.; five specimens (No. 573.)

## Fam. ACANTHOCHITIDÆ.

- \* *Acanthochites porosus*, Burrow. Loc. (?). Two specimens, one small specimen *Cryptoconchus zelandicus* (C.M.M., 51), and one larger specimen *Cryptoconchus monticularis*, Quoy (C.M.M., 51) (No. 272). † H. coll.; five specimens (No. 574). † Two specimens (No. 748.)
- \* *Acanthochites zelandicus*, Q. and G. Loc. (?). (*Acanthochætes hookeri*, Gray, C.M.M., 50.) Two specimens, one broken (No. 273). † Two specimens (No. 749.)
- † *Acanthochites violaceus*, Q. and G. H. coll. Two specimens. (No. 575.)
- \* *Acanthochites rubiginosus*, Hutton. Loc. (?). (Type, *Tonicia rubiginosa*, Hutton, C.M.M., 49.) One specimen. (No. 274.)

## Fam. MOPALIIDÆ.

- \* *Plaxiphora biramosa*, Q. and G. Loc. (?). (C.M.M., 50.) One specimen. (No. 275.)
- \* *Plaxiphora calata*, Reeve. Pitt Island. (*Acanthopleura ciliata*, Reeve, C.M.M., 49.) Two specimens. (No. 276.)
- † *Plaxiphora subatrata*, Sut. Macquarie Island. H. coll. Three specimens. (No. 577.)
- \* *Plaxiphora ovata*, Hutton. Loc. (?). (Type of *Acanthochætes*, Hutton, T.N.Z.I., iv, 182.) One specimen (No. 277). † H. coll.; Dunedin; two specimens (No. 578.)
- \* *Callochiton platessa*, Gould. Loc. (?). One specimen (mounted together with *Callochiton empleurus*, Hutton). (No. 278.)
- \* *Callochiton empleurus*, Hutton. Loc. (?). (Type of *Chiton empleurus*, Hutton, C.M.M., 48.) One specimen. (No. 279.)
- † *Ischnochiton longicymba*, Q. and G. Plimmerton. H. coll. Five specimens. (No. 580.)
- † *Ischnochiton parkeri*, Sut. Campbell Island. H. coll. Two specimens. (No. 581.)

## Fam. LEPIDOPLEURIDÆ.

- † *Lepidopleurus inquinatus*, Reeve. Brighton. H. coll.; two specimens (No. 582). † Four specimens (No. 751.)

## Class PELCYPODA.

## Order SEPTIBRANCHIA.

## Fam. CUSPIDARIIDÆ.

- † *Cuspidaria trailli*, Hutton. Foveaux Strait. H. coll. (No. 583.)

## Order EULAMELLIBRANCHIA.

## Sub-order SINUPALLIATA.

## Fam. PERIPLOMIDÆ.

- \* *Cochlodesma angasi*, C. and F. Massacre Bay. (*Anatina tasmanica*, C.M.M., 61.) One specimen (No. 280). † Traill; one specimen (No. 584.)

## Fam. THRACIIDÆ.

- \* *Thracia vitrea*, Hutton. Loc. (?). (Type of *Lyonsia vitrea*, Hutton, C.M.M., 61.) Three valves, two damaged (No. 281). † H. coll.; Foveaux Strait (No. 585.)

## Fam. CHAMOSTREIDÆ.

- \* *Chamostrea albida*, Lam. Loc. (?). (C.M.M., 62.) One specimen. (No. 282.)

## Fam. MYOCHAMIDÆ.

- \* *Myodora striata*, Q. and G. Loc. (?). (C.M.M., 62.) Two specimens. (No. 283.)
- \* *Myodora brevis*, Sow. Stewart Island (14 fath.). Four valves, one broken (No. 284). † Traill; three specimens (No. 587).
- † *Myodora nova-zealandiae*, Smith. Flat Point (75 fath.). Traill. Three specimens. (No. 588.)
- \* *Myodora subrostrata*, E. A. Smith. Stewart Island. (*M. ovata*, Reeve, C.M.M., 62.) Four valves (No. 285). † H. coll.; Plimmerton; four specimens (No. 589).
- † *Myodora antipodum*, Smith. Dusky Sound. H. coll. One specimen. (No. 591.)
- † *Myodora boltoni*, Smith. Plimmerton. H. coll. Two valves. (No. 592.)
- † *Myodora ovata*, Reeve. Stewart Island. Traill. Four specimens. (No. 590.)
- \* *Nausitoria antarctica*, Hutton. Auckland. (*Types of Teredo antarctica*, Hutton, C.M.M., 59.) Two valves. (No. 286.)

## Fam. PHOLADIDÆ.

- \* *Barnea similis*, Gray. Auckland. One specimen (No. 287). † One specimen (No. 752).
- \* *Pholadidea tridens*, Gray. Loc. (?). One specimen. (No. 288.)

## Fam. SAXICAVIDÆ.

- \* *Panopea zealandica*, Q. and G. Bay of Plenty. Two specimens. (No. 289.)
- \* *Saxicava arctica*, L. Napier. Three specimens (No. 290). † H. coll. (No. 586).

## Fam. CORBULIDÆ.

- \* *Corbula zelandica*, Q. and G. Loc. (?). Four specimens and one valve (No. 291). † H. coll.; five specimens (No. 593).
- † *Corbula erythrodon*, Lam. H. coll. Five specimens. (No. 594.)

## Fam. PSAMMOBIIDÆ.

- \* *Psammobia stangeri*, Gray. Loc. (?). Two specimens (No. 292). † H. coll. (No. 595).
- \* *Psammobia lineolata*, Gray. Three valves (No. 293). † H. coll.; three valves (No. 596).
- \* *Psammobia zealandica*, Desh. Stewart Island. (*P. zonalis*, Lam., C.M.M., 66.) One specimen. (No. 294.)
- \* *Psammobia affinis*, Reeve. Loc. (?). One specimen. (No. 295.)
- \* *Solenotellina nitida*, Gray. Loc. (?). Two specimens (bad) (No. 296). † H. coll.; three specimens (No. 597).
- † *Solenotellina radiata*, Desh. Stewart Island. Traill. Two specimens. (No. 598.)
- † *Solenotellina silqua*, Reeve. H. coll. Two specimens. (No. 599.)

## Fam. CARDIIDÆ.

- \* *Cardium pulchellum*, Gray. Cook Strait. Three specimens (No. 297). † H. coll.; six specimens (No. 600).

## Fam. VENERIDÆ.

- \* *Meretrix multistriata*, Sow. Loc. (?). (*Callista multistriata*, Desh., C.M.M., 71.) One specimen (No. 298). \* Stewart Island; one specimen (*Callista disrupta*, Desh., C.M.M., 71) (No. 299). † H. coll.; Cook Strait; four specimens (No. 601).
- \* *Dosinia subrosea*, Gray. Loc. (?). One specimen (No. 301). † H. coll.; Waikanae; three specimens (No. 602).
- \* *Dosinia australis*, Gray. Loc. (?). (*D. anus*, Phil., C.M.M., 71.) One specimen (No. 300). † H. coll.; Waikanae; six specimens (No. 603).
- \* *Dosinia lambata*, Gould. Loc. (?). (*Cyclina kroyeri*, Phil., C.M.M., 72.) One specimen. (No. 302.)
- † *Dosinia greyi*, Zittel. Traill. Three valves. (No. 718.)
- \* *Chione oblonga*, Hanley. Wellington. [One specimen (No. 303). \* *Venus zealandica*, Gray (C.M.M., 69); loc. (?); one specimen (No. 304). † H. coll.; two specimens (No. 605).]
- \* *Chione stutchburyi*, Gray. Loc. (?). Many (No. 305). † H. coll.; Napier; seven specimens (No. 606).
- \* *Chione costata*, Q. and G. Loc. (?). Four specimens (No. 306). † H. coll.; five specimens (No. 607).
- \* *Chione crassa*, Q. and G. Loc. (?). Four specimens (No. 307). † H. coll.; eleven specimens (No. 608).
- \* *Chione crebra*, Hutton. Loc. (?). (*Type of species*, C.M.M., 70.) One specimen. (No. 308.)
- \* *Anaitis disjecta*, Perry. Cook Strait. One valve. (No. 309.)
- \* *Anaitis yatei*, Gray. Loc. (?). Two specimens (No. 310). † H. coll.; Napier; seven specimens (No. 609).
- † *Gomphina maorum*, E. A. Smith. Whangaroa. Traill. One valve. (No. 610.)
- \* *Tapes intermedia*, Q. and G. Loc. (?). Three specimens and one valve (No. 311). † H. coll.; four specimens (No. 611).
- † *Tapes fabagella*, Desh. Plimmerton. H. coll. Four specimens. (No. 615.)
- \* *Venerupis reflexa*, Gray. Chatham Islands. (*V. brevis*, Quoy, C.M.M., 73.) Two specimens (No. 312). † H. coll.; five specimens (No. 612).
- † *Venerupis siliqua*, Desh. H. coll. Three specimens. (No. 613.)

## Fam. VENERIDÆ—continued.

- \* *Venerupis elegans*, Desh. Chatham Islands. (*Venerupis reflexa*, Gray, C.M.M., 73.) One specimen (No. 313). † H. coll.; five specimens (No. 614).

## Fam. MACTRIDÆ.

- \* *Macra discors*, Gray. Waikanae. Two specimens (No. 314). † H. coll.; Hawke's Bay; six specimens (No. 616).
- \* *Macra aequilatera*, Desh. (No. 315.) † H. coll.; Hawke's Bay; seven specimens (No. 617).
- \* *Macra scalpellum*, Desh. Stewart Island. Two valves. (No. 316.) † H. coll.; Plimmerton (No. 618).
- † *Macra lavata*, Hutton. Petane. H. coll. Four valves. (No. 619.)
- † *Macra ordinaria*, Smith. Cook Strait. Traill. Nine specimens. (No. 620.)
- \* *Standella elongata*, Q. and G. Stewart Island. (*Mulinia notata*, Hutton, C.M.M., 64.) One specimen (No. 317). † H. coll.; three specimens (No. 621).
- \* *Standella ovata*, Gray. Loc. (?). (*Hemimacra ovata*, Gray, C.M.M., 63.) One specimen (No. 318). † H. coll.; three specimens (No. 622).
- \* *Resania lanceolata*, Gray. (No. 319.) † H. coll.; two specimens (No. 623).
- \* *Zenatia acinaces*, Q. and G. Loc. (?). (No. 320.) † H. coll.; five specimens (No. 624).
- \* *Raeta perspicua*, Hutton. Bay of Islands. (Type.) One valve. (No. 321.)
- † *Cyamioactra problematica*, Bernard. Foveaux Strait. Seven valves. (No. 710.)
- \* *Perrierina taxodonta*, Bernard. Foveaux Strait. H. coll.; two valves (No. 625). † Whangaroa Harbour; eleven valves (No. 774).

## Fam. MESODESMATIDÆ.

- \* *Mesodesma novæ-zealandiæ*, Chemn. = *M. australis*, Gmel. (*Mesodesma chemnitzi*, C.M.M., 68.) One specimen (No. 322). † H. coll.; four specimens (No. 626).
- \* *Mesodesma ventricosa*, Gray. Loc. (?). (*Mesodesma elongata*, Quoy, C.M.M., 68.) (No. 323.) † H. coll.; three specimens (No. 627).
- \* *Atactodea subtriangulata*, Gray. Waikanae. (*Mesodesma cuneata*, Lam., C.M.M., 68.) Two specimens (No. 324). † H. coll.; three specimens (No. 628).
- \* *Tellina alba*, Q. and G. Loc. (?). (*T. albinella*, Lam., C.M.M., 66.) One specimen (No. 325). † H. coll.; three specimens (No. 629).
- \* *Tellina lactea*, Q. and G. Loc. (?). (*T. deltoidalis*, Lam., C.M.M., 67.) Two specimens (No. 326). † H. coll.; four specimens (No. 630).

## Fam. MESODESMATIDÆ—continued.

- \* *Tellina ticaonica*, Desh. Stewart Island. Two specimens and two broken valves (No. 327). † H. coll.; Stewart Island; five specimens (No. 631).
- \* *Tellina disculus*, Desh. Chatham Islands. (*T. sublenticularis*, Sow., C.M.M., 67.) Four valves (No. 328). † H. coll.; three specimens (No. 632).
- \* *Tellina strangei*, Desh. West coast, South Island. (*Tellina decussata*, C.M.M., 67.) Two specimens (No. 329). † H. coll.; three and a half specimens (No. 633).
- \* *Tellina subovata*, Sow. Stewart Island. (*Tellina linteæ*, Hutton, C.M.M., 67.) Five specimens (No. 330). † H. coll.; three and a half specimens (No. 634).
- † *Tellina glabrella*, Desh. H. coll. Three valves. (No. 635.)
- † *Tellina huttoni*, Smith. Whangaroa. Traill. Three and a half specimens. (No. 636.)
- † *Tellina spenceri*, Hutton (MS.). Traill. Two and a half specimens. (No. 637.)

## Sub-order INTEGRIPALLIATA.

## Fam. SPHÆRIDÆ.

- † *Pisidium novæ-zealandiæ*, Prime. H. coll. Two specimens. (No. 638.)
- † *Sphærium novæ-zealandiæ*, Desh. River Leith. H. coll. Twelve specimens. (No. 639.)

## Fam. UNIONIDÆ.

- † *Diplodon menziesi*, Gray. Wairoa River. H. coll.; two specimens (No. 640). † *D. aucklandica*, Gray; H. coll.; one and a half specimens (No. 641).
- \* *Diplodon menziesi*, var. *waikarensis*, Col. Lake Waikaremoana. (Co-types.) Two specimens. (No. 331.)
- † *Diplodon menziesi*, var. *hochstetteri*, Dkr. Lake Rotomahana. (Presented by Sir George Grey.) One specimen. (No. 642.)
- † *Diplodon menziesi*, var. *rugata*, Hutton. H. coll. Two specimens. (No. 643.)
- † *Diplodon menziesi*, var. *depauperata*, Hutton. Lake Takapuna. (Type.) One specimen. (No. 644.)
- \* *Diplodon zelebori*, Dkr. Napier. (Presented by W. Colenso.) Four specimens. (No. 332.)
- † *Diplodon websteri*, Simpson. Auckland. H. coll. One specimen. (No. 645.)

## Fam. LEPTONIDÆ.

- \* *Kellya cycladiformis*, Desh. Loc. (?). One specimen, one valve broken (No. 333). † H. coll.; five specimens (No. 646).

## Fam. LEPTONIDÆ—continued.

- † *Neolepton antipodum*, Filhol. Foveaux Strait. H. coll. Six specimens. (No. 647.)
- † *Neolepton sanguineum*, Hutton. Foveaux Strait. H. coll. Many. (No. 648.)
- \* *Lasea miliaris*, Phil. Wellington. Many. (No. 334.)
- \* *Mylitta stowei*, Hutton. Lyall Bay. Two valves (No. 335). † H. coll.; four specimens (No. 649.)
- † *Pachykellya edwardsi*, Bernard. Foveaux Strait. H. coll. Six specimens. (No. 650.)

## Fam. KELLYELLIDÆ.

- † *Cyamium oblongum*, E. A. Smith. Macquarie Island. H. coll. Eight valves. (No. 651.)

## Fam. DIPLODONTIDÆ.

- \* *Diplodonta zelandica*, Gray. Loc. (?). One specimen (No. 336). † Traill; six specimens (No. 652.)
- \* *Diplodonta globularis*, Lam. Stewart Island (14 fath.). One specimen (No. 337.) † H. coll.; Hawke's Bay; three specimens (No. 653.)
- \* *Diplodonta striata*, Hutton. Kapiti. (*Mysia novæ-zealandiæ*, Reeve, C.M.M., 70.) One valve (No. 338.) † H. coll.; Cook Strait; four specimens (No. 654.)

## Fam. LUCINIDÆ.

- \* *Divaricella cumingi*, Ad. and Ang. Chatham Islands. Three specimens, one valve of *Lucina divaricata*, C.M.M., 74 (No. 339). † H. coll.; Foveaux Strait; three specimens (No. 655.)

## Fam. THYASIRIDÆ.

- \* *Thyasira flexuosa*, Montagu. Waikanae. Many; one valve, Stewart Island, *Cryptodon*, sp. ind., C.M.M., 75. (No. 340.)

## Fam. CRASSATELLITIDÆ.

- \* *Crassatellites bellula*, Ad. Loc. (?). (*Type of Gouldia isabella*, Hutton, C.M.M., 76.) (No. 341.) † H. coll.; Foveaux Strait; four specimens (No. 656.)
- † *Cuna delta*, Tate and May. Foveaux Strait. H. coll. (No. 657.)

## Fam. CONDYLOCARDIDÆ.

- † *Condylocardia crassicosta*, Bernard. Foveaux Strait. H. coll. Five specimens. (No. 658.)
- † *Condylocardia concentrica*, Bernard. Foveaux Strait. H. coll. Three specimens. (No. 659.)

## Fam. CARDITIDÆ.

- \* *Cardita aviculina*, Lam. Loc. (?). (*Mytilocardia excavata*, Desh., C.M.M., 76.) Two specimens

## Fam. CARDITIDÆ—continued.

- and one valve (No. 342). † H. coll.; Stewart Island; five specimens (No. 660.)
- † *Verticipronus mytilus*, Hedley. Foveaux Strait. H. coll. (No. 661.)
- \* *Venericardia australis*, Lam. Loc. (?). Three specimens (No. 343). † H. coll.; four specimens (No. 662.)
- † *Venericardia difficilis*, Desh. H. coll. Four specimens. (No. 663.)
- † *Venericardia compressa*, Reeve. H. coll. Seven valves. (No. 664.)
- \* *Venericardia zelandica*, P. and M. Loc. (?). One specimen and a number of valves. (No. 344.)
- † *Venericardia corbis*, Phil. Stewart Island. H. coll. Ten valves. (No. 665.)

## Order PSEUDO-LAMELLIBRANCHIA.

## Fam. LIMIDÆ.

- \* *Lima lima*, L. Stewart Island. (*Squamosa*, Lam., C.M.M., 83.) Three specimens (No. 345). † H. coll.; Foveaux Strait; four specimens (No. 666.)
- † *Lima angulata*, Sow. H. coll. One specimen. (No. 667.)
- \* *Lima bullata*, Born. Stewart Island. Two specimens and valves (No. 346). † H. coll.; four specimens (No. 668.)

## Fam. PECTINIDÆ.

- \* *Pecten medius*, Lam. Wellington. Two specimens. (No. 347.)
- \* *Pecten asperrimus*, Lam. H. coll. Ten specimens. (No. 669.)
- \* *Pecten zelandiæ*, Gray. Stewart Island. Three specimens (No. 348). † H. coll.; twelve specimens (No. 670.)
- \* *Pecten zelandiæ*, var. *gummulata*, Reeve. Loc. (?). One specimen. (No. 349.)
- \* *Pecten radiatus*, Hutton. Stewart Island (13 fath.). (*Type*.) Two specimens and one valve (No. 350). † H. coll.; seventeen specimens (No. 672.)
- \* *Pecten convexus*, Q. and G. Loc. (?). One specimen and two valves (No. 351). † H. coll.; five specimens (No. 673.)

## Fam. OSTREIDÆ.

- \* *Ostrea angasi*, Sow. Tory Channel, Picton (10 fath.). Two specimens (No. 352). † H. coll.; Dusky Sound; one valve (No. 674.)
- \* *Ostrea purpurea*, Hanley. Wellington Harbour. Two specimens. (No. 353.)
- \* *Ostrea glomerata*, Gould. Whangarei. Two specimens. (No. 354.)

## Fam. OSTREIDÆ—continued.

\* *Ostrea reniformis*, Sow. Loc. (?). Two specimens. (No. 355.)

## Fam. PTERIIDÆ.

† *Philobrya meleagrina*, Bernard. Foveaux Strait. H. coll. Valves only. (No. 675.)

† *Philobrya costata*, Bernard. Foveaux Strait. H. coll. Seven valves. (No. 676.)

† *Philobrya filholi*, Bernard. Foveaux Strait. H. coll. Six valves. (No. 677.)

† *Hochstetteria trapezina*, Bernard. Lyall Bay. H. coll. Five valves. (No. 678.)

\* *Pinna zelandica*, Gray. Loc. (?). Three specimens. (No. 356.)

## Order FILIBRANCHIA.

## Fam. MYTILIDÆ.

† *Mytilus edulis*, L. H. coll. One specimen. (No. 679.)

\* *Mytilus latus*, Chemn. = *M. canaliculatus*, Mart. (Type of *M. dunkeri*, Reeve, C.M.M., 77.) One specimen. (No. 357.) \* (Types of *M. smaragdinus*, Chemn., C.M.M., 77); two specimens (No. 358). \* Loc. (?); two specimens (No. 359).

\* *Mytilus magellanicus*, Lam. One specimen (No. 360). † H. coll.; Otago; seven specimens (No. 681).

\* *Volsella australis*, Gray. Chatham Islands. (*Modiola albicosta*, C.M.M., 78.) Two specimens (No. 361). † H. coll.; Otago; seven specimens (No. 682).

\* *Volsella ater*, Dkr. and Zelebor. Loc. (?). Two specimens, one from Auckland Islands (No. 362). † H. coll.; four specimens (No. 683).

\* *Volsella fluviatilis*, Hutton. Great Lagoon, Chatham Islands. (Types of *Modiola securis*, C.M.M., 78). Two specimens (No. 363). † H. coll.; Petane; five specimens (No. 684).

† *Modiolaria barbata*, Reeve. H. coll. Four specimens. (No. 685.)

\* *Modiolaria impacta*, Herrm. (*Crenella discors*, C.M.M., 78.) Four specimens (No. 364). † H. coll.; Otago Heads; seven specimens (No. 686).

\* *Lithophaga truncata*, Gray. Loc. (?). Two specimens (No. 365). † H. coll.; Napier; five specimens (No. 687).

## Fam. MODIOLARCIDÆ.

† *Modiolarca pusilla*, Gould. Macquarie Island. H. coll. Twenty-eight specimens. (No. 688.)

† *Modiolarca trapezina*, Lam. Macquarie Island. H. coll. Ten specimens. (No. 689.)

† *Modiolarca bicolor*, Smith. Macquarie Island. H. coll. (No. 690.)

## Fam. ARCIDÆ.

\* *Barbatia decussata*, Sow. Loc. (?). (*Barbatia sinuata*, C.M.M., 79.) Two specimens (No. 366). † H. coll.; Otago; ten specimens (No. 691).

\* *Barbatia reticulata*, Gmel. Loc. (?). (*Barbatia pusilla*, C.M.M., 79.) Six valves (No. 367). † H. coll.; Foveaux Strait; three specimens (No. 692).

\* *Glycymeris laticosta*, Q. and G. Loc. (?). One specimen (No. 368). † H. coll.; Foveaux Strait; seven specimens (No. 693).

\* *Glycymeris striatularis*, Lam. Loc. (?). Two specimens (No. 369). † H. coll.; Cook Strait; (No. 694).

## Fam. ANOMIIDÆ.

\* *Anomia cytaeum*, Gray. Stewart Island. One specimen. (No. 370.)

\* *Anomia alectus*, Gray. Stewart Island. One specimen. (No. 371.)

\* *Anomia stoweri*, Hutton. Picton. (Type.) One specimen (No. 372). † *Anomia*, sp.

\* *Anomia walteri*, Hector. Bay of Islands. (Types.) Several. (No. 373.)

\* *Placunanomia zelandica*, Gray. Stewart Island. One valve (No. 374). † H. coll.; Foveaux Strait; three specimens (No. 695).

\* *Placunanomia ione*, Gray. Stewart Island. One valve. (No. 375.)

## Order PROTOBRANCHIATA.

## Fam. NUCULIDÆ.

\* *Nucula nitidula*, A. Ad. Auckland. (*N. marginata*, C.M.M., 80.) A few valves (No. 376). † H. coll.; Mokohinau; nine specimens (No. 697).

\* *Nucula strangei*, A. Ad. Loc. (?). One specimen (No. 377). † Wellington Harbour; six specimens (No. 698).

\* *Nucula lacunosa*, Hutton. Loc. (?). (*N. consobrina*, Ad., C.M.M., 80.) One specimen (No. 387). † H. coll.; Napier; twelve specimens (No. 699).

## Fam. LEDIDÆ.

\* *Leda concinna*, A. Ad. Stewart Island. One specimen (No. 379). † H. coll.; Dusky Sound; eight specimens (No. 700).

\* *Mallea australis*, Q. and G. Wellington Harbour. (*Solenella cumingii*, A. Ad., C.M.M., 81.) Two specimens (No. 380). † H. coll.; Foveaux Strait; five specimens (No. 701).

## Fam. SOLENOMYACIDÆ.

\* *Solenomya parkinsoni*, Smith. Loc. (?). (*Solemya australis*, Lam., C.M.M., 76.) One specimen (No. 381). † Traill; five specimens (No. 702).

## Class BRACHIOPODA.

## Order ARTICULATA.

## Fam. RHYNCHONELLIDÆ.

*Rhynchonella nigricans*, Sow. Chatham Islands. Several (No. 385). † Traill; Stewart Island; seven specimens (No. 706).

## Fam. CRANIIDÆ.

\* *Crania*, sp. Loc. (?). (C.M.M., 87.) Three valves (No. 386). † Traill; Whangaroa, Cook Strait; seven valves (No. 707).

## Fam. TEREBRATULIDÆ.

\* *Magellania lenticularis*, Desh. Stewart Island. Three specimens (No. 382). † H. coll.; Foveaux Strait; three specimens (No. 703).

\* *Terebratella sanguinea*, Leach. Cook Strait. (*Waldheimia*.) Three specimens (No. 383). † H. coll.; Preservation Island; six specimens (No. 704).

\* *Terebratella rubicunda*, Sol. Loc. (?). Many (No. 384). † H. coll.; Stewart Island; six specimens (No. 705).

In addition to those in the previous list Mr. Suter also presented the following species (27th August, 1904):—

*Bulla quoyi*, Gray. Three specimens. (No. 722.)

*Terebra venosa*, Hinds. Three specimens. (No. 724.)

*Purpura scobina*, var. *rutila*, Quoy and Gaimard. Three specimens. (No. 726.)

*Trophon stangeri*, Gray. Four specimens. (No. 727.)

*Taron dubius*, Hutton. Six specimens. (No. 732.)

*Realia hochstetteri*, Pfr. Three specimens. (No. 735.)

*Lagocheirus pallidus*, Hutton. Three specimens. (No. 736.)

*Calyptraea alta*, Hutton. Four specimens. (No. 738.)

*Monodonta atrovirens*, Phil. Five specimens. (No. 740.)

*Monodonta subrostrata*, Gray. Four specimens. (No. 741.)

*Monodonta corrosa*, var. *plumbea*, Hutton. Three specimens. (No. 742.)

*Monodonta excavata*, Ad. and Ang. Two specimens. (No. 743.)

*Gibbula suteri*, E. A. Smith. Three specimens. (No. 744.)

*Incisura lyttletonensis*, Hedley. Three specimens. (No. 745.)

*Acmaea conoidea*, Hutton. Three specimens. (No. 746.)

*Plaxiphora suteri*, Pils. One specimen. (No. 450.)

*Venerupis insignis*, Desh. Two specimens. (No. 753.)

*Diplodon lutulentus*, Gould. Three specimens. (No. 754.)

*Flammulina (Carthea) kiri*, Gray. Four specimens. (No. 755.)

The following list has been drawn up with the idea of giving some information as to the individuals who have assisted in collecting the Mollusca of New Zealand, and whose names have been attached to the various species and genera which they have been instrumental in securing:—

## ALFREDI.

(Named after Alfred Suter, who discovered the variety near the Mount Cook Hermitage.)

*Paryphanta tenisoni*, var. *alfredi*, Suter, T.N.Z.I., xxii, 229; xxiv, 300.

## ANGASI.

(After George French Angas, F.L.S., F.Z.S., traveller, author, naturalist; obituary notice, Proc. Linn. Soc. London, 1886-87, p. 33; autobiography, "The Little Journal," date (?), page (?).)

*Cochlodesma angasi*, Crosse and Fischer, Journ. de Conch., xii, 349; xiii, 427. *Anatina tasmanica*, Hutton, non Reeve.

*Ostrea angasi*, Sowerby, Reeve, Conch. Icon. sp., 28; P.L.S.N.S.W., 1, ix, 533. *O. edulis*, auct., non Linnaeus.

*Odontostoma angasi*, Tryon, Man. Conch., 1, viii, 362.

*Triforis angasi*, Crosse, Man. N.Z. Moll., 75; Man. Conch., 1, ix, 179.

*Murex angasi*, Crosse, T.N.Z.I., xvi, 219; Man. Conch., 1, ii, 88.

## BANKSII.

(In honour of Sir Joseph Banks, F.R.S., companion of Captain Cook in the "Endeavour," and a patron of science.)

*Onichoteuthis banksii*, Leach, Man. Conch., 1, i, 168.

## BENHAMI.

(In compliment to Professor W. Blaxland Benham, Professor of Biology at the University of Otago, Dunedin.)

*Lippistes benhami*, Suter, Journ. Malac., ix, 65.

## BOLTONI.

(Named after Colonel Bolton, an early collector; correspondent of Dr. J. E. Gray.)

*Myodora boltoni*, E. A. Smith, P.Z.S., 585; P.L.S.N.S.W., ix, 517.

## BROUNI.

(After Captain Broun, F.L.S., Government Entomologist, Auckland.)

*Charopa brouni*, Suter, T.N.Z.I., xxiii, 86; Man. Conch., 2, viii, 102.

## BUSBYI.

(Mr. Busby was Resident Commissioner at the Bay of Islands in the early days of the colony, and paid much attention to viticulture and natural history.)

*Paryphanta busbyi*, Gray, P.L.S.N.S.W., vii, 629; Man. Conch., 2, i, 127.

## CHEESEMANI.

(Named in honour of T. F. Cheeseman, Esq., F.L.S., Curator of the Auckland Museum, and author of the most recent "Flora of New Zealand.")

*Phrixgnathus cheesemani*, Suter, T.N.Z.I., xxvi, 137.

*Surcula cheesemani*, Hutton, T.N.Z.I., xxxi, 68.

*Trophon cheesemani*, Hutton, T.N.Z.I., xvi, 220.

## CHILTONI.

(After Dr. Charles Chilton, Professor of Biology at Canterbury College.)

*Lagochilus chiltoni*, Suter, P. Mal. S., ii, 33.

## COLENSOI.

(In honour of the late Rev. W. Colenso, F.R.S., a zealous collector and student of the natural history of New Zealand for more than fifty years.)

*Charopa colensoi*, Suter, P.L.S.N.S.W., 2, vii, 657; Man. Conch., 2, viii, 99.

## CORFEI.

(Named in honour of Mr. C. C. Corfe, in 1880, at Christ's College, Christchurch.)

*Cratena corfei*, Hutton, T.N.Z.I., xiii, 203; xiv, 166.

## CUMINGIANA.

(In honour of Hugh Cuming, a famous collector; biography, J. C. Melville, Journ. of Conch., vii, 1895, p. 59.)

*Potamopyrgus cumingiana*, Fischer, P.L.S.N.S.W., 2, vii, 619.

*Tenagodes cumingi*, Murch, P.Z.S., 1860, 403; Man. Conch., 1, viii, 190.

*Divaricella cumingi*, Adams and Angas, P.Z.S., 1863, 426, pl. xxxvii, fig. 20.

## CONSTANCEÆ.

(The generic and specific names are in compliment to Lady Constance Ranfurly, who collected this species on the Auckland Islands.)

*Ranfurlya constanceæ*, Suter.

## CAMPBELLI.

(Probably Campbell Island is here referred to.)

*Polypus campbelli*, E. A. Smith.

## DAVII.

(Mr. Davis was an assistant on the Geological Survey of the colony. He was drowned in a West Coast river.)

*Astralium sulcatum*, var. *davisi*, Stowe, T.N.Z.I., iv, 218.

## DENDYI.

(After Professor Arthur Dendy, Professor of Biology, formerly at Christchurch.)

*Athoracophorus dendyi*, Suter, P. Mal. S., ii, 253.

## DUNNIAE.

(After Mrs. Dunn, an English lady who received shells from Mr. Busby and gave them to Dr. J. E. Gray.)

*Rhytida dunniae*, Gray, P.L.S.N.S.W., 2, vii, 630; Man. Conch., 2, i, 126.

## EARLII.

(In honour of Augustus Earle, author of "Nine Months' Residence in New Zealand in 1827." Drowned off the Australian coast.)

*Patella radians*, var. *earlii*, Reeve, P.L.S.N.S.W., 1, ix, 376.

## EDWARDI.

(After Edward Suter (eldest son of Henry Suter), who discovered the species at Hossack Downs, Canterbury.)

*Paryphanta edwardi*, Suter, P. Mal. S., iii, 290; A.M.N.H., 7, vii, 70.

## EDWARDSI.

(After Professor Alphonse Milne Edwards, Director of the Museum of Natural History, Paris. Died 21st April, 1900, at the age of sixty-four years.)

*Pachykellya edwardsi*, Bernard, Bull. Mus. Paris, iii, 310.

## FEREDAYI.

(After the late Mr. R. W. Fereday, of Christchurch, the well-known entomologist.)

*Flammulina feredayi*, Suter, P.L.S.N.S.W., 2, vii, 645; Man. Conch., 2, viii, 74.

## FILHOLI.

(Named in honour of Professor H. Filhol, Professor of Anatomy at the Museum of Natural History, Paris, who accompanied the French Transit of Venus Expedition to Campbell Island. Born 1843; died 28th April, 1902.)

*Marinula filholi*, Hutton, Man. N.Z. Moll., 34.

*Philobrya filholi*, Bernard, Journ. de Conch., xlv, 16, pl. i, fig. 6.

## GASSIESIANA.

(After J. B. Gassies, author of the "Faune Conchyliologique terrestre et fluvio-lacustre de la Nouvelle-Calédonie," 1863-80, 3 volumes.)

*Latia neritoides*, var. *gassiesiana*, Fischer, Journ. de Conch., v, 167.

## GILLIESI.

(Named after His Honour the late Mr. Justice Gillies, an energetic collector of the land Mollusca of New Zealand.)

*Paryphanta gilliesi*, E. A. Smith, P.L.S.N.S.W., 2, vii, 629; Man. Conch., 2, i, 127.

## GRAYI.

(Named after John Edward Gray, F.R.S.; born 1800, died 1875. A distinguished naturalist; for many years Keeper of the British Museum.)

*Dosinia grayi*, Zittel, Man. N.Z. Moll., 151.

## GREENWOODI.

*Rhytida greenwoodi*, Gray, P.L.S.N.S.W., 2, vii, 630; Man. Conch., 2, i, 126; P. Mal. S., iv, 166.

## GOODINGI.

*Mangilia goodingi*, E. A. Smith, T.N.Z.I., xxxi, 71.

## HAASTI.

(Named in compliment to the late Professor Julius von Haast, Curator of the Canterbury Museum.)

*Phrixgnathus haasti*, Hutton, P.L.S.N.S.W., 2, vii, 650; Man. Conch., 2, viii, 62.

*Corbula haastiana*, Hutton, Man. N.Z. Moll., 135.

## HAMILTONI.

(Named after the Director of the Colonial Museum, Wellington; formerly of Petane, Hawke's Bay, and of Dunedin, Otago.)

*Phrixgnathus hamiltoni*, Suter, P. Mal. S., ii, 37.

*Tethys hamiltoni*, T. W. Kirk, T.N.Z.I., xiv, 283, Man. Conch., 1, xvi, 98.

*Lævilitorina hamiltoni*, E. A. Smith, P. Mal. S., iii, 22 (*Paludestrina*).

*Rissoia hamiltoni*, Suter, P. Mal. S., iii, 2.

*Euchelus hamiltoni*, T. W. Kirk, P. Mal. S., ii, 282; Man. Conch., 1, xi, 436.

## HECTORI.

(In honour of Sir James Hector, F.R.S., &c., Director of the Geological Survey of New Zealand, and Manager of the New Zealand Institute until his retirement in 1903.)

*Plychodon hectori*, Suter, P.L.S.N.S.W., 2, vii, 652; Man. Conch., 2, viii, 89.

## HEDLEYI.

(Charles Hedley, F.L.S., Conchologist to the Australian Museum, Sydney, who has largely increased our knowledge of the more minute species of our marine fauna.)

*Vulpecula hedleyi*, Murdoch.

*Lagochilus hedleyi*, Suter, P.L.S.N.S.W., 2, viii, 484.

## HELMSI.

(Richard Helms explored the Kosciusko Plateau on behalf of the Australian Museum; naturalist to the Elder Expedition, Central Australia; an energetic collector of specimens of natural history on the west coast of the South Island; now Bacteriologist to the Agricultural Department, Sydney.)

*Phacussa helmsi*, Hutton, T.N.Z.I., xv, 137, 138.

*Acmaea helmsi*, E. A. Smith, P. Mal. S., i, 58.

## HENRYI.

(Richard Henry, the well-known Curator of Resolution Island, the native-bird sanctuary in the West Coast Sounds.)

*Phacussa henryi*, Suter, P. Mal. S., iii, 289.

## HOCHSTETTERI.

(Professor Ferdinand von Hochstetter, one of the earliest of the Continental naturalists to visit New Zealand. He spent some time in the North Island, and wrote an excellent book on the geology and natural history of this country.)

*Paryphanta hochstetteri*, Pfeiffer, P.L.S.N.S.W., 2, vii, 629; Man. Conch., 2, i, 127; P. Mal. S., i, 5; iv, 171; A.M.N.H., 7, vii, 68; Zool.

Jahrb., xiv, 369.

## HOCHSTETTERI—continued.

*Realia hochstetteri*, Pfeiffer, P.L.S.N.S.W., 2, vii, 623.  
*Dipodon menziesi*, var. *hochstetteri*, Dunker, P.L.S.N.S.W., 2, vii, 663.

## HONGII.

(The great Maori chief; born 1787, died 6th March, 1828.)

*Placostylus hongii*, Lesson, P.L.S.N.S.W., 2, vii, 632; Man. Conch., 2, xiii, 22.

## HUTTONI.

(Captain F. W. Hutton, F.R.S. A very large number of species have been dedicated in honour of this veteran pioneer in New Zealand zoology. In the study of all orders of the animal kingdom, recent and fossil, he has laboured untiringly and zealously. Died 1905.)

*Charopa huttoni*, Suter, T.N.Z.I., xxii, 226; Man. Conch., 2, viii, 104.

*Solidula huttoni*, T. W. Kirk, T.N.Z.I., xiv, 268; Man. Conch., 1, xv, 147.

*Cantharidus tenebrosus*, var. *huttoni*, E. A. Smith, P. Mal. S., ii, 269; Man. Conch., 1, xi, 123.

*Phasianella huttoni*, Pilsbry, Man. Conch., 1, x, 174.

*Rissoia huttoni*, Suter, P. Mal. S., iii, 2.

*Cominella huttoni*, Kobelt, T.N.Z.I., xvi, 232; Man. Conch., 1, iii, 204.

*Columbella huttoni*, Suter. For *Sulcata*, Hutton, Man. N.Z. Moll., 45, preoccupied.

*Divaricella cumingi*, var. *huttoni*, Vanatta, Proc. Acad. Nat. Sci. Philadelphia, 1901, 184, pl. v, figs. 14, 15.

*Tellina huttoni*, E. A. Smith, "Challenger" Reports, xiii, 101, pl. iv, fig. 2.

*Eudoxochiton huttoni*, Pilsbry, Man. Conch., 1, xiv, 194.

*Dentalium huttoni*, T. W. Kirk, T.N.Z.I., xii, 306; Man. Conch., 1, xvii, 71.

*Haliotis virginea*, var. *huttoni*, Filhol, Mission Ile Campbell, 527; Man. Conch., 1, xii, 108.

## JEFFREYSIANA.

(After Dr. J. Gwyn Jeffreys, F.R.S., &c., author of "British Mollusca.")

*Rhenea jeffreysiana*, Pfeiffer, P.L.S.N.S.W., 2, vii, 631; Man. Conch., 2, i, 129.

## JUKESIANA.

(J. Beete Jukes, F.R.S., geologist, author of "The Voyage of the Fly," who discovered the species.)

*Scalaria jukesiana*, Forbes, P. Roy. S. Vict., n.s., xiii, 142; Man. Conch., 1, ix, 66. *S. wellingtonensis*, T. W. Kirk, T.N.Z.I., xii, 307.

## KIRKII.

(T. W. Kirk, F.L.S., some time Assistant Curator in the Colonial Museum, now Biologist to the Agricultural Department.)

*Architeuthis kirkii*, Robson, T.N.Z.I., xix, 155.

*Actaeon kirkii*, Hutton, Man. N.Z. Moll., 119; Man. Conch., 1, xv, 146.

## LAWLEYANUM.

(In honour of Robert Lawley.)

*Bittium lawleyanum*, Crosse, Journ. de Conch., 1863, 87; Man. Conch., 1, ix, 154.

## LESSONIANA.

(R. P. Lesson (? Rev. Père), naturalist to the "Coquille" Expedition.)

*Sepioteuthis lessoniana*, Ferussac, Austral. Mus., Sydney, Cat., xv, 14; Man. Conch., 1, i, 152.

## MANTELLI.

(Walter B. D. Mantell, a New Zealand settler, who travelled much in the early days of the colony; son of the author of "Medals of Creation.")

*Scissurella mantelli*, Woodward, P.Z.S., 1859, 202; Man. Conch., 1, xii, 54.

## MARIA.

(Maria Emma Gray, wife of Dr. J. E. Gray; authoress of "Figures of Molluscous Animals," 1842.)

*Phrixgnathus mariae*, Gray, P.L.S.N.S.W., 2, 647; Man. Conch., 2, iii, 37.

## MARTENSIANA.

(In honour of Professor Dr. E. von Martens, second Director of the Kgl. Museum für Naturkunde, Berlin, the celebrated conchologist, who died 14th August, 1904, at the age of seventy-three years.)

*Euthria martensiana*, Hutton, T.N.Z.I., xvi, 230; Man. Conch., 1, iii, 151.

## MEESONI.

(Named in honour of Mr. John Meeson, B.A., formerly a member of the Canterbury Philosophical Society, now in England.)

*Rhytidia meesoni*, Suter, P.L.S.N.S.W., 2, vii, 631; P. Mal. S., iv, 168.

## MOELLENDORFFI.

(In honour of Dr. O. von Moellendorff, during many years German Consul at Manila, a leading authority on non-marine Mollusca. He was born 24th December, 1848, and died 17th August, 1903, at Frankfurt-am-Main.)

*Phrixgnathus moellendorffi*, Suter, P. Mal. S., ii, 36.

## MOSSI.

(In honour of Mr. W. Moss, of Ashton-under-Lyne, England, who published several papers on the anatomy of non-marine Mollusca.)

*Allodiscus mossi*, Murdoch, P. Mal. S., ii, 162.

## MOUSSONI.

(Named in honour of Professor J. R. A. Mousson, of Zurich, Switzerland. He described the non-marine shells collected in Fiji, Samoa, Tonga, &c., by Dr. E. Graeffe, in Java by Zollinger, &c. He was born 17th March, 1805, and died 6th November, 1890.)

*Charopa moussonii*, Suter, T.N.Z.I., xxii, 227; Man. Conch., 2, viii, 105.

## MURDOCHI.

(R. Murdoch, of Wanganui, a zealous student of the Mollusca of New Zealand.)

*Phrixgnathus murdochii*, Suter, T.N.Z.I., xxvi, 136. *Leiostraca murdochii*, Hedley.

## PAIVÆ.

(Baron do Castella de Paiva, a Spanish conchologist.)

*Trophon paivæ*, Crosse, Man. N.Z. Moll., 49; Man. Conch., 1, ii, 155.

## PARKERI.

(Named in honour of the late Professor Thomas Jeffrey Parker, Professor of Biology at the University of Otago. Author of many valuable papers on the natural history of New Zealand.)

*Ischnochiton parkeri*, Suter, P. Mal. S., ii, 186.

## PARKINSONI.

(Parkinson was Captain Cook's artist.)

*Solenomya parkinsoni*, E. A. Smith, Man. N.Z. Moll., 157; Ereb. and Terr., pl. iii, fig. 1.

## PERONI.

(One of the naturalists to Baudin's Expedition (Géographe and Naturaliste). Author of "Voyage aux Terres Australes, 1808"; obituary in appendix, p. 434, of vol. ii. Died 14th December, 1810.)

*Sepia peroni*, Lamarck, Austral. Mus., Sydney, Cat., xv; Man. Conch. 1, i, 205.

## PETITIANA.

(After Petit de la Saussaye, a French conchologist.)

*Latia neritoides*, var. *petitiana*, Fischer, Journ. de Conch., v, 84.

## PILSBRYI.

(Named in honour of Dr. H. A. Pilsbry, Acad. Nat. Sci., Philadelphia, who so successfully continues the publication of Tryon's "Manual of Conchology.")

*Flammulina pilsbryi*, Suter, T.N.Z.I., xxvi, 133.

## PONSONBYI.

(Named in honour of Mr. H. J. Ponsonby, F.Z.S., London, well known by his many publications on South African non-marine shells.)

*Phenacohelix ponsonbyi*, Suter, P. Mal. S., ii, 161.

## PRESTONI.

(After Mr. H. B. Preston, F.Z.S., a London dealer in shells, who about ten years back visited New Zealand and collected land-shells.)

*Charopa prestoni*, Sykes, P. Mal. S., i, 218.

## PURCHASEI.

(A son of Dr. Purchas; resides at Takapuna.)

*Hydrocena purchasi*, Pfeiffer, P.L.S.N.S.W., 2, vii, 623; Man. N.Z. Moll., 40.

## ROSEVEARI.

(After J. Burman Rosevear, London, a member of the Malacological Society, London, who takes great interest in New Zealand conchology.)

*Charopa roseveari*, Suter, P. Mal. S., ii, 34.

## REEVEI.

(Lovell Reeve, author of "Conchologica Iconica," &c.; biography by J. C. Melville, Journ. Conch., ix, 1900, pp. 344-357.)

*Solarium reevei*, Hanley. *Modesta*, Cooper, P.Z.S., 1862, 204; Man. Conch. 1, ix, 12.

## SCHAUINSLANDI.

(After Professor Dr. H. H. Schauinsland, Director of the Museum in Bremen. About ten years ago he visited New Zealand and the Chatham Islands, collecting natural-history specimens.)

*Athoracophorus schauinslandi*, Plate, Zool. Jahrb. Anat., xi, 193-269.

## SHANDI.

(Named after Mr. Shand, a well-known resident of the Chatham Islands.)

*Astralium shandi*, Hutton, Man. N.Z. Moll., 91; Man. Conch., 1, x, 212.

## SIMROTHI.

(Named in honour of Professor Dr. H. Simroth, of Leipzig, the well-known malacologist, and author of the *Mollusca* in Broun's "Klassen und Ordnungen des Tierreichs.")

*Athoracophorus simrothi*, Suter, P. Mal. S., ii, 34.

## SINCLAIRI.

(Dr. Sinclair (probably a naval surgeon), early collector, and correspondent of Dr. J. E. Gray.)

*Clathurella sinclairi*, F. A. Smith, T.N.Z.I., xxxi, 73; Man. Conch., 1, vi, 283.

*Chiton sinclairi*, Gray, P. Mal. S., ii, 196; Man. Conch., 1, xiv, 174.

## SLOANII.

(Probably after Sir Hans Sloane, one of the founders of the British Museum.)

*Todarodes sloanii*, Gray, Man. N.Z. Moll., 3; Man. Conch., 1, i, 180.

## SMITHI.

(Named in honour of Mr. W. W. Smith, of Ashburton, a very good collector and observer of the New Zealand fauna.)

*Allodiscus smithi*, Suter, T.N.Z.I., xxvi, 134.

## SPENCERI.

(After Mr. Charles Spencer, of Auckland, an enthusiastic collector and observer of the habits of marine Mollusca.)

*Tellina spenceri*, Hutton (MS.).

## SPENGLERI.

(After Lorenz Spengler; born 1720; and who died as Curator of the Royal Cabinet, Copenhagen.)

*Lotorium spengleri*, Chemnitz, P.L.S.N.S.W., 1, ix, 933; Man. Conch., 1, iii, 16.

## STERKIANA.

(Named in honour of Dr. med. V. Sterki, of New Philadelphia, Ohio, U.S.A.; born in Switzerland. He published a fair number of papers on non-marine shells of the United States, being a specialist on Pupidæ.)

*Charopa sterkiana*, Suter, T.N.Z.I., xxiii, 85; Man. Conch., 2, viii, 101.

## STANGERI.

(Dr. William Stanger came out to the South Pacific as the doctor of a whaling-ship for the benefit of his health, and was in New Zealand for some time, especially about Cook Strait. On his return to England he married, and was appointed to the first Government expedition to the Niger. Here he performed a remarkable exploit, in company with the other doctor.

## STANGERI—continued.

All hands on board being prostrated by fever, these two took charge of the steamer and ran her down the river a considerable distance, over the bar, and saved the lives of most of those on board. In 1845 he left for Natal and became Surveyor-General of that colony. He died in 1850.)

*Trophon stangeri*, Gray, T.N.Z.I., xvi, 219; Man. Conch., 1, ii, 147.

*Psammobia stangeri*, Gray, Man. N.Z. Moll., 141.

*Chiton stangeri*, Reeve, P. Mal. S., ii, 196.

## STENSTRUP.

(Dr. Japhetus Steenstrup, of Copenhagen, a specialist on Cephalopoda.)

*Steenstrupia stockii*, T. W. Kirk, T.N.Z.I., xiv, 286.

## STOCKII.

(In compliment to the late Venerable Archdeacon Stock, of Wellington, who reported the cephalopod to Mr. Kirk.)

*Steenstrupia stockii*, T. W. Kirk, T.N.Z.I., xiv, 286.

## STOWEI.

(Mr. Stowe was one of the first to arrange the marine shells in the Colonial Museum.)

*Mylitta stowei*, Hutton, Man. N.Z. Moll., 157; A.M.N.H., 6, viii, pl. xiii.

*Anomia stowei*, Hutton, Man. N.Z. Moll., 173.

## STRANGEI.

(See separate article, p. 50.)

*Tellina strangei*, Deshayes, Man. N.Z. Moll., 144. *T. subovata*, Sowerby; *T. lineata*; *T. retiaria*, Hutton.

*Nucula strangei*, A. Adams, Man. N.Z. Moll., 164; Ereb. and Terr., pl. ii, fig. 14.

## STUDERI.

(Named in honour of Professor Dr. Th. Studer, Director of the Museum in Berne, Switzerland; author of the supplement to the *Alcyonaria* in "Challenger" Reports. He has been to the Kerguelen Islands and New Zealand.)

*Lagochilus studeri*, Suter, P. Mal. S., ii, 33.

## STUTCHBURYI.

(Samuel Stutchbury, of Bristol, once Government Geologist of Queensland; travelled widely in the Pacific and made large collections of shells. Obituary notice, Proc. Linn. Soc. Lond., 1858-59, p. xlvi.)

*Chione stutchburyi*, Gray, Man. N.Z. Moll., 148; Ereb. and Terr., pl. iii, fig. 4.

## SUHMI.

(Dr. Rudolf von Willemoes Suhm; died 13th September, 1875. Obituary, "Challenger Narrative," 2, p. 769.)

*Taonius suhmi*, Hoyle, Chall. Rep., xvi, 45, 192.

## SUTERI.

(Edward Suter, of Auckland, who has made a special study of the New Zealand land Mollusca, and who has also written on the marine Mollusca. To Mr. Suter we owe a debt of gratitude for the sterling work that he has done.)

*Macoma suteri*, E. A. Smith, P. Mal. S., iii, 23.

*Plaxiphora suteri*, Pilsbry, Nautilus, viii, 8; P. Mal. S., ii, 190.

*Gibbula suteri*, E. A. Smith, P. Mal. S., ii, 278.

*Rissoia suteri*, Hedley.

## TENISONI.

(Rev. Julian Edmund Tenison-Woods, Australian traveller, author, conchologist, and geologist. Obituary notice, Proc. Linn. Soc. N.S.W. (2) N. 1889, p. 1301.)

*Limnæa tenisoni*, Clessin, Conch. Cab. 2, i, pt. 17, 371.

*Rissoia tenisoni*, Tate. *R. australis*, T.-Woods, non Sow.; P. Mal. S., iii, 4; P.L.S.N.S.W., xxv, pl. xxv, fig. 4.

## TRAILLI.

(In honour of the late Walter Traill, who made large collections by dredging on almost every part of the New Zealand coast, particularly about Stewart Island.)

*Cancellaria trailli*, Hutton, Man. N.Z. Moll., 46.

*Cuspidaria trailli*, Hutton, Man. N.Z. Moll., 137.

## TRaversi.

(W. T. L. Travers; died 1903. Mr. Travers was the author of many papers in the "Transactions of the New Zealand Institute," and was for many years one of its Governors.)

*Therasia traversi*, E. A. Smith, P.L.S.N.S.W., 2, vii, 641; Man. Conch., 2, ii, 214.

*Euthria lineata*, var. *traversi*, Hutton, T.N.Z.I., xvi, 229; Man. Conch., 1, iii, 136.

## TRYONI.

(Henry Tryon, member N.Z. Inst., q.v.; travelled and collected in New Zealand about 1880; afterwards assistant Queensland Museum. Founded Royal Society of Queensland. Now Government Entomologist, Brisbane.)

*Tethys tryoni*, Meinertzhagen, T.N.Z.I., xii, 270; Man. Conch., 1, xvi, 16, 98.

## URQUHARTI.

(Named in honour of Mr. A. J. Urquhart, of Karaka, the author of many articles on Araneida in the "Transactions of the New Zealand Institute.")

*Allodiscus urquharti*, Suter, P.L.S.N.S.W., 2, viii, 489.

## VERRILLI.

(After Professor A. E. Verrill, Curator of the zoological collection in Yale University, New Haven, Conn., U.S.A.)

*Architeuthis verrillii*, T. W. Kirk, T.N.Z.I., xiv, 284.

## WALTERI.

*Anomia walteri*, Hector, T.N.Z.I., xxvii, 292.

## WEBSTERI.

(Rev. Mr. Webster, of Waiuku, Auckland, who has written several papers on New Zealand Mollusca.)

*Diplodon websteri*, Simpson.

## WELDII.

(Sir Frederick A. Weld, Governor of Tasmania, and later of the Straits Settlements; friend of Tenison-Woods.)

*Tenagodes weldii*, T.-Woods, P. Roy. S. Vict., n.s., xii, 205; Man. Conch., 1, viii, 191.

## YATEI.

(Rev. William Yate, author of "An Account of New Zealand," 1835.)

*Anaitis yatei*, Gray, Man. N.Z. Moll., 147; Ereb. and Terr., pl. iii, fig. 11.

## ZELEBORI.

(After Johann Zelebor, zoologist of the "Novara" Expedition, visiting New Zealand 22nd December, 1858, to 8th January, 1859.)

*Diplodon zelebori*, Dunker, Abhandl. Zool. Bot. Gesellsch. Wien, vol. xvi, 1866, p. 161.

In compiling this list I have to thank Messrs. Hedley and Suter for their kind assistance.

## ON SOME EIGHTEENTH-CENTURY NAMES THAT RELATE TO NEW ZEALAND MOLLUSCA.

[By CHARLES HEDLEY.]

Early writers on systematic zoology felt at liberty to impose on the objects of their study those names that seemed to them most tasteful, descriptive, or appropriate. The consequent application of two or more names to the same thing has proved inconvenient to their successors. The evils of synonymy can only be destroyed by a rigid adherence to priority of nomenclature. If we are to finally arrive at one name for one species we must discard familiar terms, endure to be called iconoclasts, and deem tasteful and appropriate names to be impossible luxuries.

To secure uniformity of nomenclature and mutual intelligibility the present generation of workers must submit to these sacrifices. No name can be admitted unless it is binomial. Since there were chance binomials before Linné, the first names to be recognised are those of the tenth edition of the "Systema Natura," in 1758.

The greatest laxity in nomenclature occurred in the last quarter of the eighteenth century. Here it is that the reformer's hand finds most work. Either for want of opportunity or energy, authors who constantly quote early authorities, as Linné or Lamarck, rarely verify their quotations. Thus, quoting from quotations decade after decade, old errors are handed down.

Some of the eighteenth-century names have been duly admitted into their proper place in Captain Hutton's "Index Faunæ Novæ-Zealandiæ." The object of this note is to introduce others hitherto neglected.

Sherborn's admirable "Index Animalium" has served as criterion of dates and the regularity of binomials.

*Spirula spirula*, Linné.

Index, p. 58, as "*Spirula peroni*, Lamarck." I am not aware that any modern writer has restored to this species its legitimate and original name, *Nautilus spirula*, Linné (Syst. Nat., ed. x, 1758, p. 710).

*Polypus*.

Hoyle has pointed out (Mem. Manchester Soc., xlv, 1901, p. 1) that the genus *Octopus* should be replaced by the prior *Polypus* of Schneider (Sammel. v. Abhandl., 1784, p. 116).

*Mesodesma australis*, Gmelin.

Index, p. 90, as "*Mesodesma novæ-zealandiæ*, Chemnitz." The name which Chemnitz (Conch. Cab., vi, 1782, p. 30, pl. iii, f. 19-20) gave was polynomial, and therefore yields to that of Gmelin (Syst. Nat., xiii, 1790, p. 3221).

*Mytilus canaliculus*, Martyn.

Index, p. 94, as "*Mytilus latus*, Chemnitz." The Chemnitzian name (Conch. Cab., viii, 1785, p. 165, pl. 84, f. 747) is polynomial, and should therefore be replaced by that of Thomas Martyn ("Universal Conchologist," ii, 1788, f. 78).

*Haliotis virginea*, Gmelin.

Index, p. 83, as "*Haliotis virginea*, Chemnitz." Since the name of Chemnitz (Conch. Cab., x, 1788, p. 314, pl. 166, f. 1607-1608) was polynomial, this species must date from Gmelin (Syst. Nat., xiii, 1790, p. 3690).

*Haliotis australis*, Gmelin.

Index, p. 83, as "*Haliotis rugoso-plicata*, Chemnitz." The binomial of Gmelin (Syst. Nat., x, 1790, p. 3689) must replace the polynomial of Chemnitz (Conch. Cab., x, 1788, p. 311, pl. 166, f. 1604-1604a).

*Cantharidus opalus*, Martyn.

Index, p. 32, as "*Cantharidus iris*, Gmelin." Named and figured from an example brought from New Zealand by Captain Cook. *Limax opalus*, Martyn ("Universal Conchologist," i, 1784, f. 24), precedes the better-known name of Gmelin (Syst. Nat., xiii, 1790, p. 3580) for this species.

*Turbo smaragdus*, Martyn.

Index, p. 81, as "*Turbo helicinus*, Born." It is true that this species was first described by Born (Index Mus. Caes. Vindob., 1778, p. 355) under the name of *Turbo helicinus*, but since this name had already been preoccupied by Phipps (Voy. North Pole, 1774, p. 193) we have to fall back on *Limax smaragdus*, Martyn ("Universal Conchologist," ii, 1788, f. 73-74).

*Janthina janthina*, Linné.

Index, p. 80, as "*Janthina fragilis*, Lamarck." The original name, *Helix ianthina*, Linné (Syst. Nat., x, 1758, p. 772), for this world-wide species has for the last hundred years been gradually ignored.

*Scaphella arabica*, Martyn.

Index, p. 74, as "*Scaphella pacifica*, Lamarck." From specimens brought from New Zealand by Captain Cook *Buccinum arabicum* was figured by Martyn ("Universal Conchology," ii, 1788, f. 52). The name apparently refers to the character painted on the shell. The next name entitled to adoption for this species is *Voluta arabica*, Gmelin (Syst. Nat., xiii, 1790, p. 3461). Solander's name was in manuscript only, and that of Chemnitz was polynomial. Not till the next century do we find *Voluta pacifica* applied to our shell. It is regrettable to part with such a familiar friend as Lamarck's name, but there is no help for it.

## FREDERICK STRANGE, THE CONCHOLOGIST.

[By CHARLES HEDLEY.]

Frederick Strange was a native of Aylsham, Norfolk, England. He accompanied an Australian exploring expedition led by Sturt in 1839, during which the party nearly perished of thirst in the desert country north of the north-east angle of the Murray. In 1841 he visited New South Wales and collected diligently along the coast from Cape Howe to Wide Bay. His intimate friends included John Gould, S. Stutchbury, G. F. Angas, and John Macgillivray.

An opportunity was afforded to him in 1849 to visit New Zealand on board H.M.S. "Acheron," which touched at Auckland, Wellington, and the Canterbury settlement. He had dredged largely in the vicinity of Sydney, and was sure to have done so in New Zealand. Numerous species are credited to this assiduous collector by the customers of Cuming, and *Melanopsis strangei*, *Nucula strangei*, and *Tellina strangei* are especially dedicated to him. Some account of his travels in New Zealand was published in the *Sydney Morning Herald* of the 20th January, 1850.

After fourteen years' absence he returned to England in June, 1852. He is said to have brought "a most splendid collection of animals, birds, insects, plants, shells, and eggs of the rarest description, principally natives of Australia. The few live specimens he had he has sent to the Zoological Society, who have purchased them."

His collection of shells was evidently purchased in block by Hugh Cuming, and supplied material for several papers in the "Proceedings of the Zoological Society" for the next few years by A. Adams and Deshayes.

Returning with his wife and family to Australia, he settled in Brisbane. He fitted out a small vessel to collect along the Barrier Reef. On the 15th October, 1854, he landed on Percy Island with his guest, Hill, a well-known botanist. While Hill pushed into the interior for plants, Strange stayed to pick up shells on the beach. A few hours later Hill found other members of his party murdered on the shore. Strange's body was never recovered, but he no doubt was also speared by the blacks. G. F. Angas composed some verses in memory of his friend's tragic end. Poor Strange's last find, a lovely *Cardium bechei* from Percy Island, is still preserved in the Australian Museum.

## NEW MOLLUSCA.

The following is a list of type specimens of Mollusca dredged in 110 fathoms, off Great Barrier Island, and presented to the Colonial Museum by Messrs. C. Cooper,

Auckland ; C. Hedley, Sydney ; R. Murdoch, Wanganui ; Professor Park, Dunedin ; Mr. H. Suter, Auckland ; and Rev. W. H. Webster, Waiuku :—

1. <i>Philine constricta</i> , Murdoch and Suter.	45. <i>Eulimella levilirata</i> , M. and S.
2. " <i>umbilicata</i> , M. and S.	46. <i>Pyramidella (Syrnola) tenuiplicata</i> , M. and S.
5. <i>Cylichna simplex</i> , M. and S.	47. <i>Eulima vegrandis</i> , M. and S.
7. <i>Ringicula delecta</i> , M. and S.	48. " <i>infrapatula</i> , M. and S.
9. <i>Actaeon craticulatus</i> , M. and S.	49. " <i>(Mucronalia) bulbula</i> , M. and S.
14. <i>Drillia optabilis</i> , M. and S.	50. <i>Minolia textilis</i> , M. and S.
17. <i>Pleurotoma alticincta</i> , M. and S.	51. " <i>plicatula</i> , M. and S.
18. " <i>angusta</i> , M. and S.	53. <i>Cirsonella granum</i> , M. and S.
19. " <i>eremita</i> , M. and S.	54. <i>Cocculina tasmanica</i> , Pils. (no type).
23. <i>Fulguraria (Alcithoe) hedleyi</i> , M. and S.	<i>Mangilia infanda</i> , Webster.
24. <i>Vulpecula (Pusia) biconica</i> , M. and S.	" <i>murrhea</i> , Webster.
25. <i>Marginella fusula</i> , M. and S.	<i>Daphnella aculeata</i> , Webster.
26. " <i>hebescens</i> , M. and S.	<i>Drilla multiplex</i> , Webster.
27. <i>Cryptospira (Gibberula) ficula</i> , M. and S.	<i>Rissoia pingue</i> , Webster.
36. <i>Diala subcarinata</i> , M. and S.	<i>Triphora infelix</i> , Webster.
40. <i>Omalasis amœna</i> , M. and S.	<i>Cerithiopsis stiria</i> , Webster.
41. <i>Actis semireticulata</i> , M. and S.	<i>Columbella dæmona</i> , Webster.
43. <i>Scala levifoliata</i> , M. and S.	" <i>compta</i> , Webster.
44. <i>Odostonia marginata</i> , M. and S.	

One specimen of each ; the numbers, also accompanying the specimens, are those of the paper by Murdoch and Suter. A full description of all the new species will appear in the forthcoming volume of the "Transactions of the New Zealand Institute."

#### LAND MOLLUSCA.

The following is a list of shells collected by Mr. Hamilton at Paekakariki and Taihape, and identified by Mr. H. Suter :—

PAEKAKARIKI.  
*Helicella caperata*, Montagu. Introduced.  
*Hyalina alliaria*, Mueller. Introduced.  
*Phenacharopa novoseelandica*, Pfeiffer.  
*Phenacohelix lucetta*, Hutton.  
*Charopa coma*, Gray.  
 " *luccinella*, Roe.

TAIHAPE.  
*Phrixgnathus mariae*, Gray.  
*Flammulina s. str. perdita*, Hutton.

*Phrixgnathus ariel*, Hutton.  
 " *allochroida*, var. *sericata*, Suter.  
*Charopa subantialba*, Suter.  
*Ptychodon pseudoleiodon*, Suter.  
*Charopa coma*, var. *globosa*, Suter.  
*Flammulina (Allodiscus) dimorpha*, Pfeiffer.  
*Charopa tapirina*, Hutton.  
*Phenacohelix lucetta*, Hutton.  
*Charopa coma*, Gray.  
 " *luccinella*, Roe.  
*Flammulina (Serpho) kivi*, Gray.





## NEW ZEALAND TOKENS.

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TOKENS are metal discs with devices, inscriptions, or more commonly both, impressed upon them by specially cut stamps or dies. They were ordered and circulated in considerable quantities by mercantile firms, banks, public companies, or other persons, as money, like ordinary coins.

By far the greater part consists of copper, the remainder of silver or of inferior metals.

As their adoption in the British colonies arose from the insufficiency of legitimate small change in circulation, they supplied an obvious want, and so long as they represented a fair value and remained restricted to circumscribed localities they evidently did no harm, but were beneficial to all parties concerned.

However, when it was discovered that the tokens not only formed an excellent medium for advertising, but that also a handsome profit could be made by debasing the value much below that of the legal current coin which the tokens displaced, they were issued in such vast numbers that the public and State suffered loss ; hence, during the sixth decade of the last century, Acts were passed for their suppression in the various British dominions.

Tasmania seems to have been the Australian colony to lead the way, with a copper token issued in 1823 ; the next is a Sydney one, in 1836 ; the last is probably one issued in Christchurch, in 1883, by Milner and Thompson.

As a palpable evidence of peculiar phases of national life, both in Britain and the colonies, they will ever remain objects of interest to the collector and the historian, for in both they are contemporaneous with most important periods of national importance and development.

In 1901 Dr. Long, of Sydney, published a "Skeleton Catalogue of Australian Copper Tokens," and gives in it the number assigned in Stainsfield's catalogue to each token. His list of the firms issuing New Zealand tokens is arranged in alphabetical order, and the same plan is being followed in the Museum collection, the curious zinc discs issued by the Nelson Brewery being placed at the end. These discs are stamped with the letter H and a number 1-12, representing the number of pence they represented. It is believed there were two brewers in Nelson at the time they were issued whose name began with H.

A detailed description of all the minor varieties cannot be given, as the collection is wanting in many of them. The present list of forty-seven firms is about complete, but the Director will be glad to hear of any additions. It is not known who issued the tokens inscribed "New Zealand Penny." Twelve firms issued halfpence as well as pence. Eight or more varieties can be found in the tokens of some firms. Probably these represent different orders, and the association of various stock dies that the maker had on hand. The majority of New Zealand tokens seem to have been made by T. Stokes, a well-known die-sinker, of Melbourne.

The greater part of the collection is deposited by Mr. A. Hamilton, Director of the Colonial Museum, with the exception of the Nelson Brewery tokens, which were presented to the Museum by Mr. James Riddick in 1895.

Two brass tokens, of the value of 1s. and 2s. 6d., issued by the Wairarapa Farmers' Association, have been presented to the collection. It was intended to include this association in the list, as I found in a list of New Zealand tokens one set down of the value of 5s., but I now find that a series of six brass discs marked 1s., 2s., 2s. 6d., 5s., and two in white metal marked 10s. and 20s., were issued as discount tokens, taking the place of others in tin and cardboard used by the company many years ago. I am indebted to the secretary of the company for a complete set for the Museum collection.

In the collection exhibited, only what may be called the most general type is exhibited, and not the varieties. Any varieties are kept in the Director's cabinet for further study.

Many of the specimens are not good copies, and must be replaced as soon as good ones are available.

Since the above notes were written specimens have been presented by Mr. A. Gillespie, of the Shepherd's Arms, Tinakori Road, and by Mr. H. C. Christie.

[10th November, 1905.—After having had the opportunity of inspecting a fine collection of tokens belonging to Mr. Entrican, of Auckland, I can add two additional tokens to the list: Crowther, Parnell and Newmarket; a token used on a line of omnibuses about 1875; two specimens are in Mr. Entrican's collection; halfpenny size, but probably representing a larger amount. Auckland Ferry Company: This company is said to have stamped defaced coppers with some letters and used them in the ferry service; I have not yet seen these.]

The following list shows where the different tokens were issued, and by whom, the number of each in the Museum, and the value they were intended to represent:—

Alliance Tea Company. 1d. (Two.)	Hurley and Co., J., Wanganui. 1d. and $\frac{1}{2}$ d. (Two of each.)
Anderson, D., Wellington. 1d. and $\frac{1}{2}$ d. (Two of each.)	Jones and Williamson, Dunedin. 1d. (Two.)
Ashton, H., Auckland. $\frac{1}{2}$ d. in 1858 and 1859, and 1d. in 1862 and 1863. There are at least four varieties of the 1863 penny. (Two of each.)	Kirkcaldie and Stains, Wellington. 1d. and $\frac{1}{2}$ d. (Two of each.)
Auckland Ferry Company (?).	Levy, Lipman, Wellington, 1d. and $\frac{1}{2}$ d. Five or six varieties. (Two 1d. and one $\frac{1}{2}$ d.)
Barley, Charles C. 1d. (Two.)	Licensed Victuallers' Association, Auckland. 1d. Two varieties. (Two.)
Beath and Co., Christchurch. 1d. There are four or five varieties. (Two.)	Marks, Morris, Auckland. 1d. (Two.)
Beaven, S., Invercargill. 1d. (One.)	Mason, Struthers, and Co., Christchurch. 1d. Two varieties. (Two.)
Brown and Duthie, Taranaki. 1d. (Two.)	McCaul, G., Grahamstown. 1d. (Two.)
Caro and Co., Christchurch. 1d. There are two varieties of this token. (Two.)	Mears, J. W., Wellington. $\frac{1}{2}$ d. (Two.)
Clark, Archibald, Auckland. 1d. (Two.)	Merrington, J. M., Nelson. 1d.
Clarkson, S., Christchurch. 1d. Three varieties. (Two.)	Milner and Thompson, Christchurch. 1d. A very complicated series, with at least nine or ten varieties. (Two.)
Clarkson and Turnbull, Timaru (with view of breakwater). 1d. Two or three varieties. (Two.)	Morrin and Co., Auckland. 1d., with three varieties. (Two.)
Coombes, Samuel, Auckland. 1d. Two varieties. (Two.)	New Zealand penny. 1d. (Two.)
Crowther, Parnell and Newmarket, Auckland. Value not given. Halfpenny size.	Perkins and Co., Dunedin. 1d. and $\frac{1}{2}$ d. (Two of each.)
Day and Mieville, Dunedin. 1d. (Two.)	Petersen, W., Christchurch. 1d. (Two.)
De Carle and Co., E., Dunedin. 1d., and one variety. (Two.)	Pratt, W., Christchurch. 1d., with three varieties. (Two.)
Forsaith, T. S., Auckland. 1d. and $\frac{1}{2}$ d. (Two 1d. and one $\frac{1}{2}$ d.)	Reece, E., Christchurch. 1d. and $\frac{1}{2}$ d., with six varieties. (Two of each.)
Gaisford and Edmonds, Christchurch. 1d. (One.)	Smith, S. Hague, Auckland. 1d., with six varieties. (Two of each.)
Gilmour, J., New Plymouth. 1d., and one variety (Two.)	Somerville, M., Auckland. 1d., with three varieties. (Two.)
Gittos, B., Auckland. 1d. (Two.)	Union Bakery Company, Christchurch. 1d., with two varieties. (Two.)
Gourlay and Co., T. W., Christchurch. 1d., and one variety. (Two.)	United Service Hotel, Auckland. 1d., with one variety. (Two.)
Gratten, R., Auckland. 1d. (Two.)	Wallace, James, Wellington. 1d. and $\frac{1}{2}$ d. (Two of each.)
Hall, H. J., Christchurch. 1d. and $\frac{1}{2}$ d., with about fourteen varieties. (Two of each.)	Waters, Edward, Auckland. 1d., with one variety. (Two.)
Hobday and Jobberns, Christchurch. 1d., with one variety. (Two.)	Wilson, A. S., Dunedin. 1d. (One.)
Holland and Butler, Auckland. 1d. (Two.)	Nelson Brewery. 1d., 2d., and 3d. (Three.)

The following is the list given above arranged in alphabetical order under the heading of the towns in which they were issued :—

Auckland—	Christchurch— <i>continued.</i>
Ashton, H.	Pratt, W.
Auckland Ferry Company (?).	Reece, Edward.
Barley, C. C.	Union Bakery Company.
Clark, Archibald.	Dunedin—
Coombes, Samuel.	Day and Mieville.
Crowther, W.	De Carle, E.
Forsaith, T. S.	Jones and Williamson.
Gittos, B.	Perkins and Co.
Gratten, R.	Wilson, A. S.
Holland and Butler.	Grahamstown—
Licensed Victuallers' Association.	McCaul, G.
Marks, Morris.	Invercargill—
Morrin and Co.	Beaven, S.
Smith, S. Hague.	Nelson—
Somerville, M.	Merrington, J. M.
United Service Hotel.	Nelson Brewery, with zinc tokens.
Waters, Edward.	New Plymouth—
Christchurch—	Brown and Duthie.
Alliance Tea Company.	Gilmour, J.
Beath and Co.	Timaru—
Caro and Co.	Clarkson and Turnbull.
Clarkson, S.	Wanganui—
Gaisford and Edmonds.	Hurley and Co., J.
Gourlay, T. W.	Wellington—
Hall, H. J.	Anderson, D.
Hobday and Jobberns.	Kirkcaldie and Stains.
Mason, Struthers, and Co.	Levy, Lipman.
Milner and Thompson.	Mears, J. W.
Peterson, W.	Wallace, James.

Since the above was in type I have visited Nelson and have obtained some additional information about the interesting group of zinc tokens used in that city in the early days. I found that Mr. E. H. Lukins had in his collection a number of types unknown to me, and he has kindly permitted me to make notes of these.

The following particulars are also of interest: The zinc discs were made in Nelson by Mr. John M'Cartney, one of the first tinsmiths in that province, by punching from a sheet of zinc. The particular kind of zinc used was only stocked or kept by Mr. M'Cartney. Probably he also impressed the numerals and marks for customers as ordered by them. The size is not always uniform, as there are a few examples differing from the majority. The trades represented appear to be brewers and bakers, and an hotelkeeper. The brewery tokens are the more numerous, and have in nearly all cases a small hole drilled in them. Mr. Lukins was fortunate enough to find in the old brewery two wire files or hooks hanging to a beam with a number

of discs threaded thereon—a find which explains the purport of the hole. I am also informed that, so far as brewers and bakers were concerned, the tokens or discs were used mainly in the purchase of barm.

There is a specimen of the zinc discs in the Nelson Museum collection, together with some very interesting examples of the early paper money of the years 1844 and 1845.

Mr. Lukins has also in his collection a bone disc, roughly cut and polished, with the figure 10 cut in the surface of one side. This is believed to be a specimen of an issue made by a local tradesman, who spent his spare moments in cutting out these tokens. I am at present, however, unable to get his name.

The following is a provisional list of those that I have seen, with the marks thereon (in all cases the mark is on one side only) :—

A. A. (Alex. Aitken, baker).	No hole.	Lukins.	H. 8.	Lukins.
D. W. (W inside a rough D).	No hole.		H. 2/-.	Lukins.
G.1. G.7. Anchor Hotel, formerly at Auck-		I. S. No hole.	Lukins.	
land Point.	No hole.	Lukins.	R. R. (Robert Ross, innkeeper).	No hole. Lukins.
and Nelson Museum.			THOS. SULLIVAN	No hole. Lukins.
G. 2/-, with hole.	Lukins.		2.	
G. Harley.	Lukins.		W. M. S.	No hole. Large size. Hamilton.
H.1 H.2, H.3, without hole.	Colonial Museum.		W. C.	No hole. Lukins.
H.2, H.3, H.4, with hole.	Lukins.		10. (Bone.)	Lukins.



## PHOTOGRAPHS OF CARVINGS AND OF WEAPONS.

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THE purchases made by the Government for the National Maori Museum include many specimens of carving and weapons that have not hitherto been figured, and it is proposed in the "Museum Bulletin" to publish from time to time photographs as a record of the collections and for the purpose of comparative study.

From the collection of Mr. Handley, of Okehu, near Wanganui, came two carved *pare*, or lintels for door or window. They are of interest as being quite different in style from any hitherto figured, the treatment of the legs of the subordinate figures in the larger one being remarkable. They are



FIGS. A AND B.

not of any great age, as the perforated parts are evidently bored through. The work is, however, of a high class for the West Coast. The smaller of the two has some finely conceived double spirals. The three central figures are similar to one example that I met with at Tolaga Bay, on the East Coast, and probably represent a posture of a haka. Their respective lengths are 1 ft. 8 in. by 5 ft. 6 in., and 1 ft. by 5 ft. 6 in.

The next carvings are not recent acquisitions, but form part of the carved slabs of the Maori house in the Wellington Museum—a house representing the highest degree of excellence in that particular style. It was carved by a number of the best carvers of the Ngati-Kaipaho Tribe, at Tauranga. The house, as erected at the Museum, is not all as it should be, and requires immediate examination and repair. I have taken the opportunity when examining it to make a photograph of one of the finest figures, which owing to its position was quite invisible to visitors (Fig. C): it represents Raharui Rukupo, the chief of the Ngati-Kaipaho. The house was carved as a monument to the memory of Tamata Waaka Tuangere, his elder brother, in the year 1842. Measurements: Height of figure, 4 ft.

Fig. D is a small *pou*, or inside slab from the part under the window of the house. It is a very good example of the skill of the carvers in filling a given space.

Fig. E is a *pare*, or lintel for a door or window. This specimen came from Galatea, and had been used for many years as a *rakui* or mark to indicate the ownership of an eel-fishery or eel *pa* on the Rangitaiki River near Galatea. It was thickly overgrown with mosses and lichens. It belongs to Mr. T. E. Donne's collection. Length, 3 ft. 8 in. by 1 ft. 6 in.



FIG. C.



FIG. D.



FIG. E.

Fig. F is a *pare*, or carved lintel for a doorway. This is a fine example of the style usual in the Rotorua district.



FIG. F.

In "Maori Art" a number of carved figure-heads of war-canoes are given, and it will be found that in those figured in that book, and in the majority of cases, the connecting-pieces between the spirals are so carefully arranged that the eye does not connect any series of them. To make this clear,

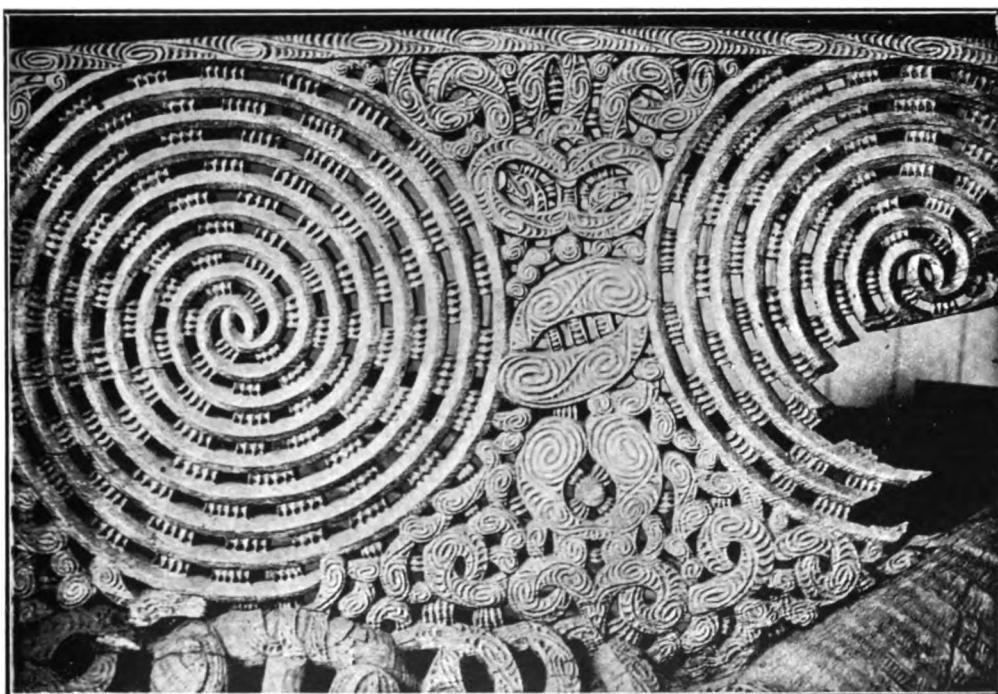


FIG. G.

I give a figure of a very old canoe-head, finished with loving care and labour; it is now in the New Plymouth Museum. The spirals here are without flaw, and so is the arrangement of the studs.

Now, in this figure, which I procured from Mr. Partington, of Wanganui, the studs are purposely arranged in radial lines. Mr. Cheeseman has called my attention to a similar arrangement in a figure-head in a different style of carving, probably also from the West Coast.

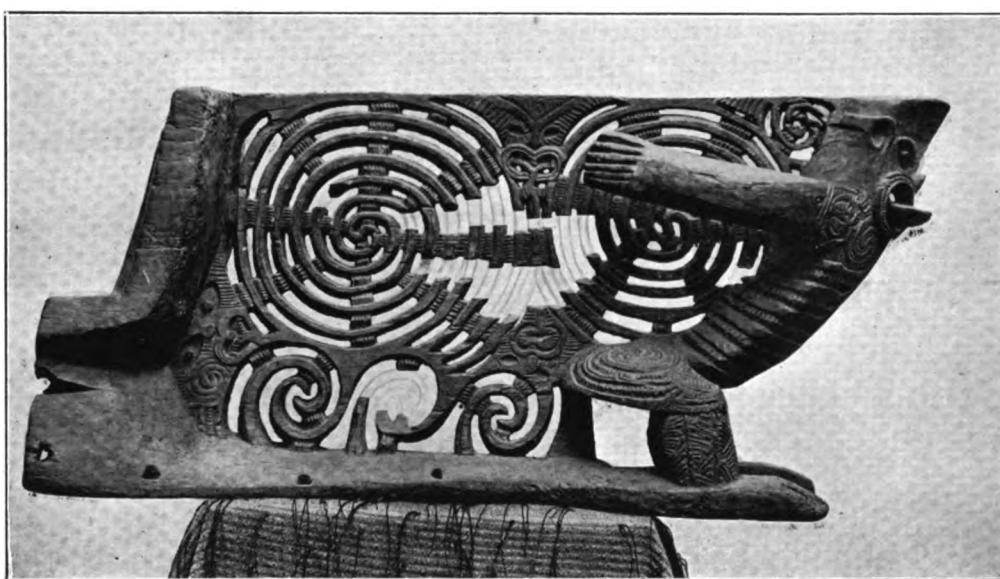


FIG. H.

The figure shows very inferior technique, as well as weakness in the design. Measurements : Length, 3 ft. 6 in.

This figure of a canoe-head, purchased from Mr. Handley, brings us again to a masterpiece of carving, closely allied in style to Fig. G. It evidently was of some renown, as it was lashed together



FIG. J.

in parts with flax and thickly covered with red paint. The main figure with the arm turned back is a female. This is, as far as I know, unusual. The specimen bore the name of Pukerito amongst the Maoris of the Wanganui district. Measurements : Length, 3 ft. 6 in.



FIG. K.

Fig. K is given to show a very degraded form of canoe-head, quite unworthy of the craftsman of old. This also came from Mr. Handley's collection, and is from the Wanganui District.

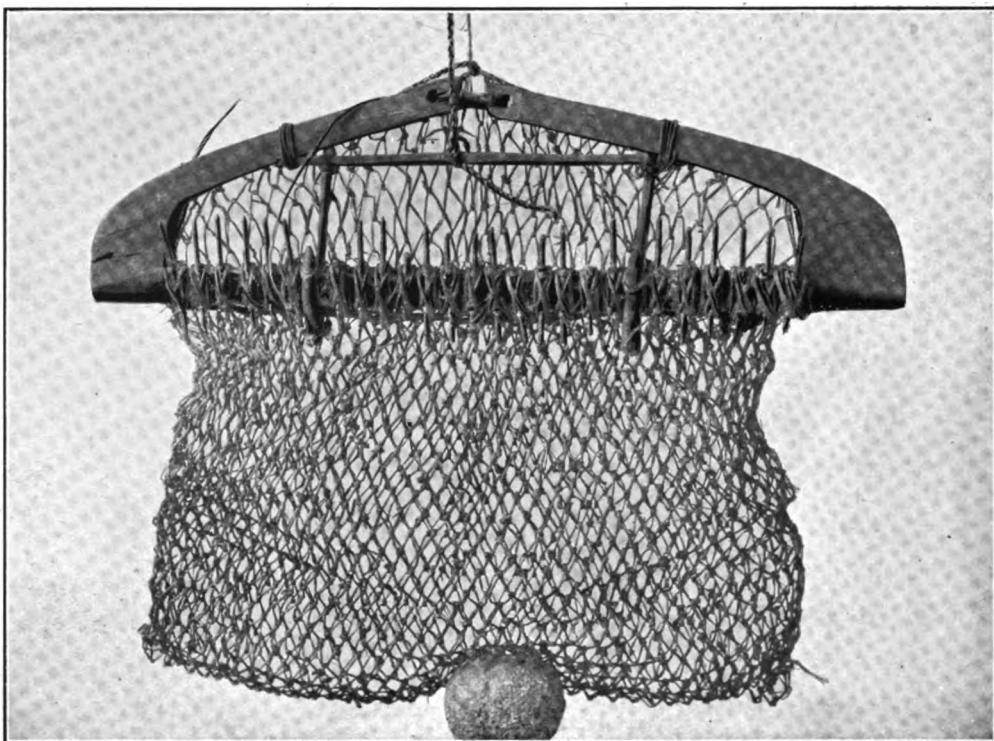


FIG. La.

Figs. La, Lb, and Lc are three specimens of *roukakahi*, or dredges for raking up the fresh-water mussel from the lakes of Rotorua, Rotoiti, or Taupo.

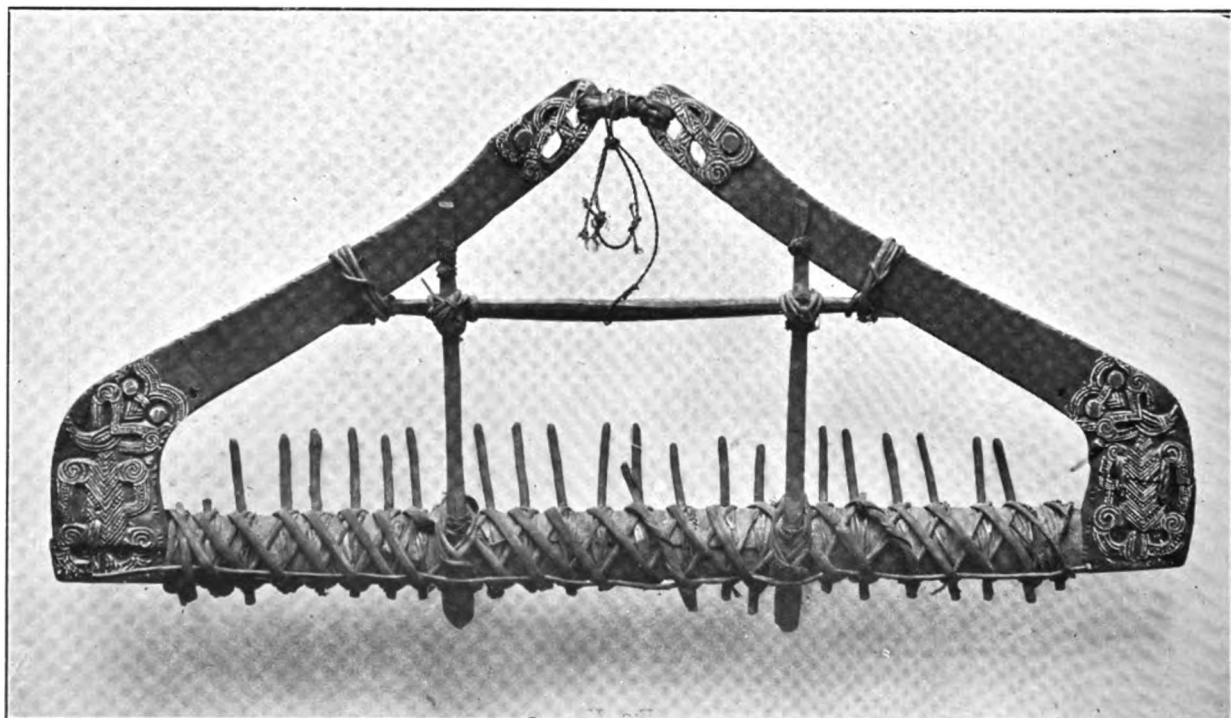


FIG. Lb.

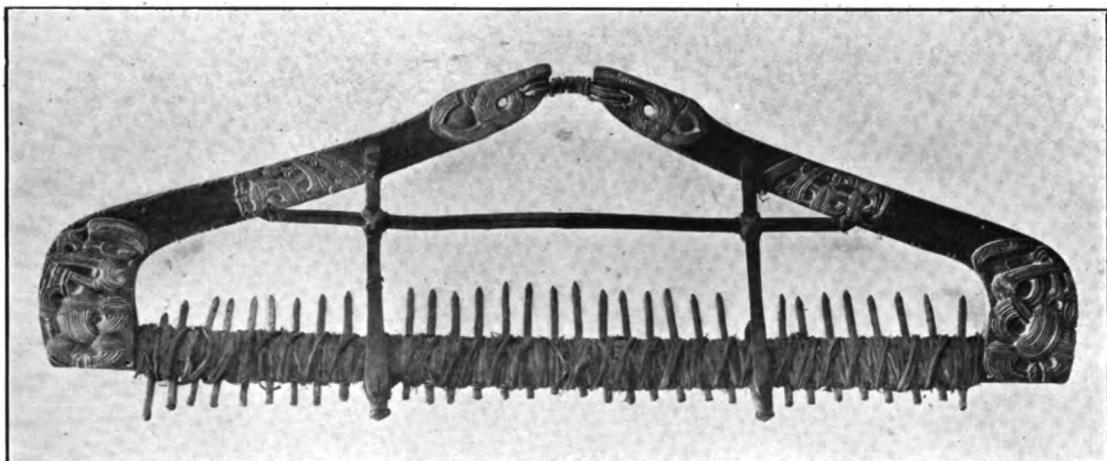


FIG. Lc.



FIGS. M AND N.



FIGS. O AND P.

Figs. M and N are small figures carved for the ornamentation of *whares*, the one being treated decoratively and the other realistically; both are good specimens of the Maori rendering of the human figure. The fierce-looking one, I think, is intended for a deified ancestor or an *atua*.

Figs. O and P are two large carved figures from the outer fence of a fortified *pa* in the Urewera Country; from the Hill collection. Height, about 5 ft. 7 in.

The photograph on this page is of a group of sacred objects from the collection of the Rev. T. G. Hammond, Patea. Mr. Hammond thus describes them :—

No. 1. A *manea* found at Waokena, near Te Hawera. Used for the protection of the burying-places. Any violation after this had been deposited was avenged by Toii.

No. 2. A small *kuru*, used for pounding hinau-berries, fern-root, or dressed flax.

No. 3. A stone found at Puketapu, near New Plymouth. Used for making the water *tapu*. After the incantation had been recited the stone was attached to a rope and placed in the stream. Enemies, or any persons, drinking of that stream would die.



No. 4. A *manea* found at Takeruahine *pa*, Whakamara. Formerly placed upon the *tuaahu* and covered with sand ; fern-stalks were laid upon the sand, the incantation said, and the *tohungas* left for a short time to give the sand time to settle down and move the fern-stalks. The way in which they moved would determine the omens.

No. 5. A *whatu kura* found inland from Alton. In this stone was deposited the *kura*, probably pieces of stone from Hawaiki. In times of trouble these stones were consulted, and often the *whatu* or *kohatu* was used in order to speak or to deliver through it some of the more sacred incantations or some very important directions to the *ope*, or war-party.

Nos. 6 and 7. *Purus*, used to put a polish on weapons of war, such as *taiaha* or *tewatewa*, and when not in use worn as *tikis*. (These stones are also said to have been used in sacred ceremonies.)

No. 8. A *taniwha* found at the Kaiapoi *pa*, used for securing successful fishing expeditions. This was probably the first fish caught at the beginning of a season. It was then dried and deposited in the *waki tapu*, or place for sacred things.



FIG. Q.

Fig. Q represents carvings at the great house at Te Kuiti erected by the tribes of New Zealand in honour of Te Kooti. Two of the carvings represent the marine sea-monsters called Marakihau.

Fig. R represents a number of carvings from the Chatham Islands. They are, I believe, the only existing specimens of the carvings of the Morioris, with the exception of one or two pieces in the Christchurch Museum and in private hands in the same city. They are of great age, and apparently carved from the wood of the karaka. The designs are totally different from any found in New Zealand, and may be said to consist mainly of a bird form and single spirals. The bird form is very primitive, but recalls several localities in the Northern Pacific. The irregularity of the placing of the birds is very noticeable, and also the x-shaped form made by placing two birds breast to breast. The pieces are too fragmentary to assign definitely to any part of a house, unless the two pieces notched at the ends have been uprights carrying a ridge-pole. The lower ends of each have been sawn off. The largest fragment is about 5 ft. 6 in. in length.

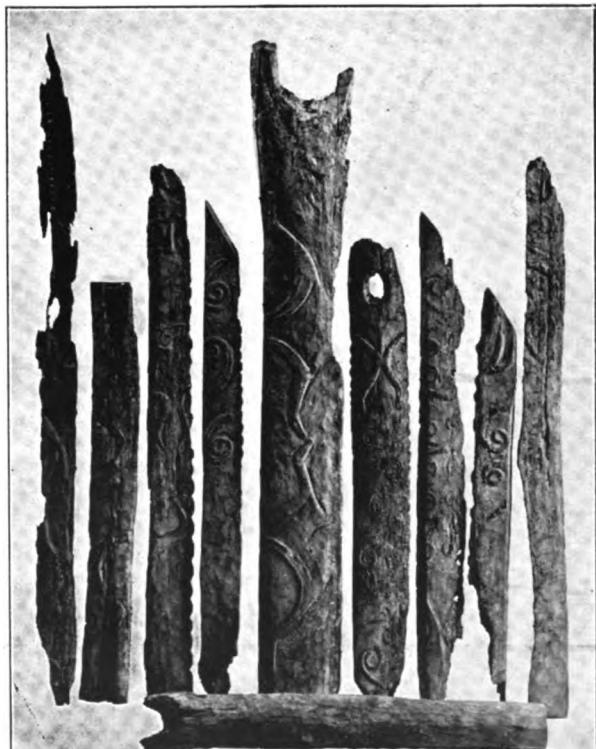


FIG. R.

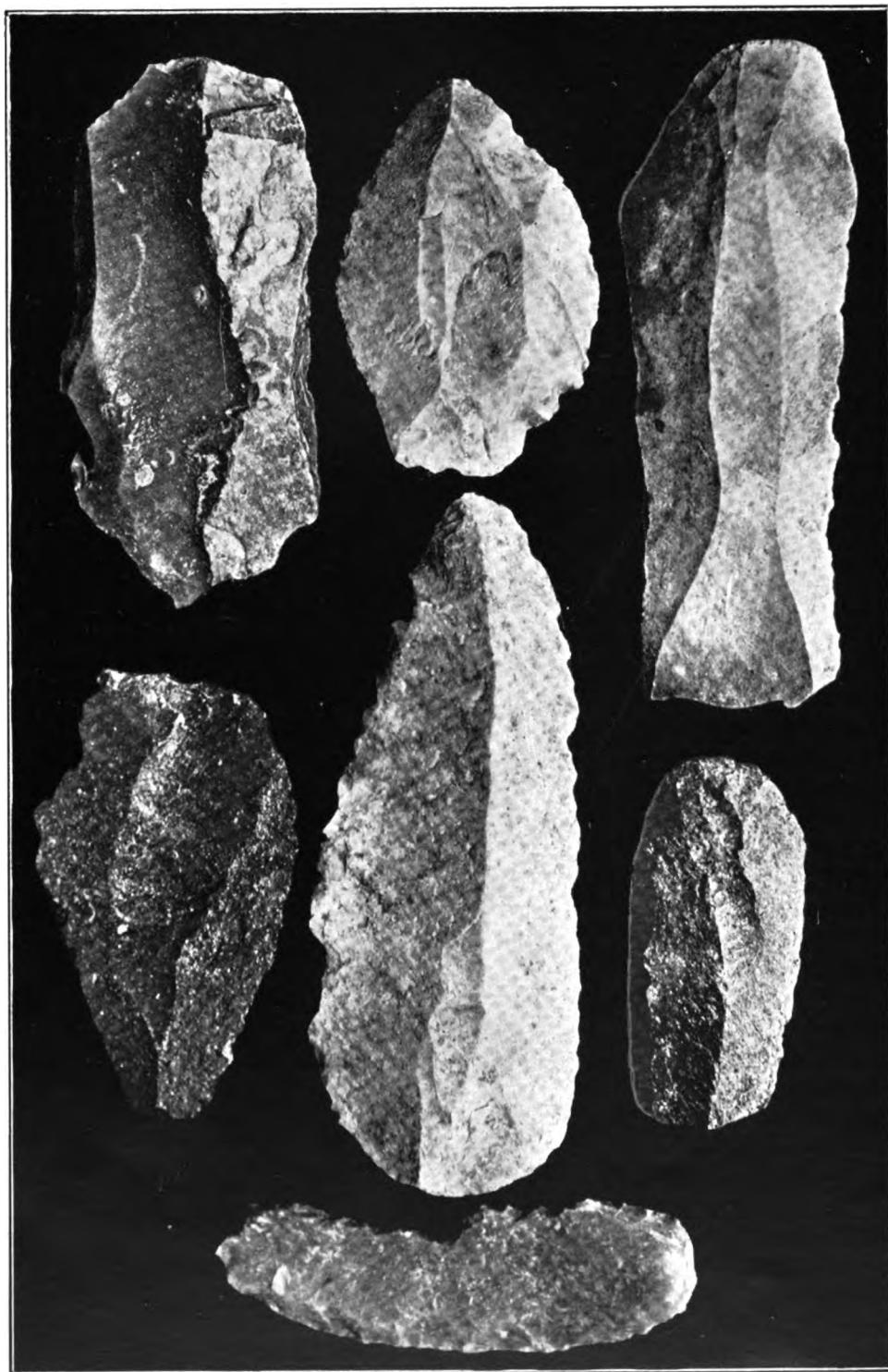


FIG. S.

This is a group of chert knives from the moa-hunters' kitchen-middens at Shag Point, Otago. Great numbers of these flakes are found on the sites of old camps in the Otago District, the specimens ranging up to 9 in. or more in length. One of the specimens from which the Maoris obtained the material for the manufacture may still be seen a few miles out of Roxburgh on the road to Alexandra. The old pits from which the chert was extracted, the waste chips, and spoilt flakes can be traced with ease. The specimens figured were collected by myself and Judge Chapman.

One of the specimens shown in Fig. T is a rough figure from the fence of a *pa*. The figure is about 3 ft. in length, and, with its small mouth, has a curious expression. The other carving is probably very ancient, and is the subject of a paper by Dr. Newman in the 38th volume of the "Transactions of the New Zealand Institute," now in the press. It has at one time formed part of the front of a small storehouse. The figure and the style of carving render the specimen of great interest. It was found buried in the ground near Auckland. The hat-like top to the smaller figure probably represents a style of dressing the long hair worn by chiefs.

Fig. U represents five carved figures from Mr. Handley's collection, obtained by him in the Wanganui district. They are all intended for the decoration of the gables of houses. Compared with the carvings of the East Coast or northern portion of the North Island they are of very crude design and execution. This statement holds good for nearly every branch of Maori art. The people of the Auckland district, Rotorua, and the East Coast Natives as far as the Mahia Peninsula were undoubtedly the best craftsmen.



FIG. T.



FIG. U.

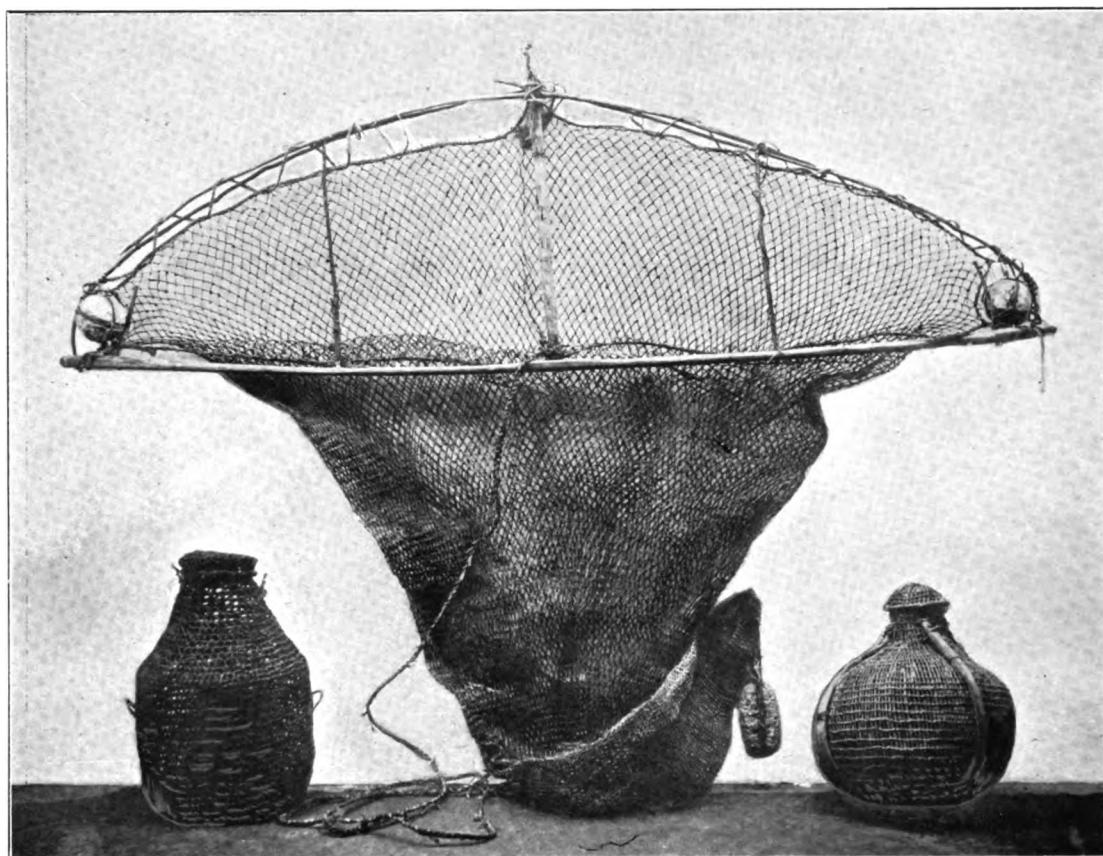


FIG. V.

This figure (V) represents a very fine *roukoura*, or dredge-net for the capture of the fresh-water crayfish common in Lakes Rotorua and Rotoiti. These have three large stone sinkers as shown in the photograph. On each side are eel-baskets in which eels caught in eel *pas* by the *hinaki* are kept until required for use. The large dredge is from Rotoiti, and the eel-baskets are from the Wanganui district; and they were acquired with the Handley collection. The width of the dredge is 10 ft., and the length of the net is also 10 ft.



FIG. W.

Fig. W represents three *tekoteko* from the Rotorua district. The central specimen is of special interest, as it wears the curious high cap or ornament frequently seen in carvings in this district, recalling the crowns or caps of the Easter Island stone images. The most interesting point is, however, that at the back of this cap there is a hole made, directed downwards, about 1½ in. in diameter and 2½ in. deep. This is probably a receptacle for the sacred *kumara* offered as the first-fruits of the *kumara* season. There are notches and holes on each side of the hollow for a covering door or slab. A similar hollow is found at the back of the head of the great stone *kumara* god at Mokoia Island, and also at the back of a small stone *kumara* god which is now in private hands at Rotorua. A hollow of a similar character, I believe, existed in some of the stone gods of Hawaii.

The following are some notes concerning some famous canoes of olden times owned by the Hauraki people—who, after the Nga-Puhi people, possessed the largest fleets of all Maori tribes, as well as the largest canoes—given by Hera Puna, the wife of the late chief Hori Ngakapa, the chief of Ngati-Whanaunga, the son of Te Horeta-te-Taniwha, who was one of the Natives who remembered Captain Cook's visit to New Zealand. The following is a translation of what she stated :—

“ The great canoes of our olden people the names of which are still famous in story are ‘ Okunui ’ and ‘ Okuiti,’ which were of great length and beam, holding five men abreast. These canoes were built in the forests of Kohunui. Ngati-Whanaunga built these canoes. In these canoes our people went on war expeditions to Wai-te-mata, Nga-Puhi, East Coast, and other places.

“ When Nga-Puhi came south in a war-party against Ngati-Kehungunu and Ngati-Porou, of East Coast, they came to Hauraki, and we of Hauraki joined them. Our canoes were great and many. The canoe of Ngati-Tama-te-ra was ‘ Whenua-roa.’ This was a great canoe. The canoe of Ngati-Paoe was ‘ Te-koko,’ and that of Ngati-Maru was ‘ Rahiri.’ There were also many other great canoes, and the number very great.

“ This was the cause of that expedition against Ngati-Kahungunu and Ngati-Porou: An expedition of Ngati-Kahungunu under their chief Mau-paraoa had been to the Bay of Islands to obtain guns and ammunition. They came by canoes and were on their return journey and stopped at Aotea (Great Barrier). Here were living our relatives Ngati-Wai, married to whose chief was Kipo Hinenui-te-po, daughter of our chief Horeta, whose father had presented to him some pigs by Cook. These were kept at Aotea, and the young thereof presented to the different sections of the tribe as they were born. Now, Ngati-Kahungunu killed and ate the pigs—among others Pukunui, a pet pig—and Kipo came to her father at Whakatiwai to complain. An expedition was formed, and the robbers surprised, killed, and eaten, and their great canoe, with its freight of guns and ammunition, captured, with many other valuables. The name of this canoe was ‘ Wai-kohare,’ and it became the property of Ngati-Whanaunga. It was built by Ngati-Kahungunu, of totara, in three sections.

“ Some years after this there came a whale-ship, and the crew stole women from North Cape and Whangarei, and came to Hauraki to my grand-uncle's (Te Haupa) place at Whakatiwai and stole

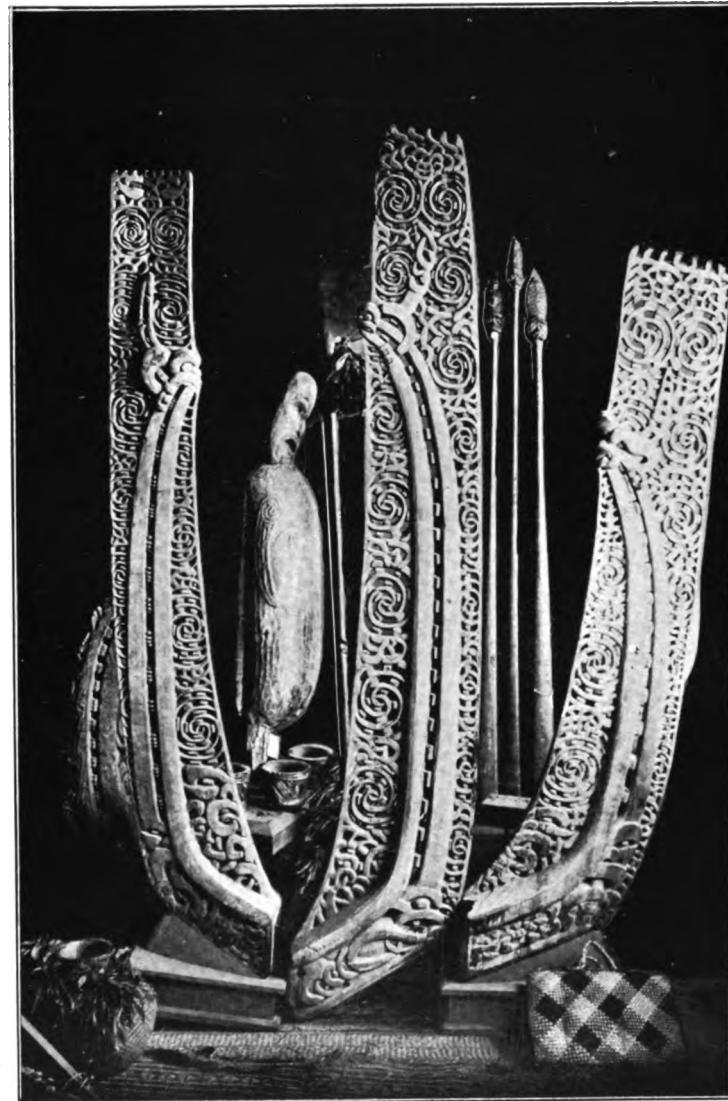


Two carved stern-ornaments for a Maori war-canoe, purchased in Auckland, and said to have belonged to canoes named “Ahi-motu-kura” and “Hura-whenua.”

some women, and detained Haupa also, who went aboard. Our people manned the canoe 'Wai-kohare' and gave chase. Te Haupa managed to jump overboard, and was picked up by the canoe. The

women were taken away, and we afterwards heard they were landed among Ngati-Kahungunu and Ngati-Porou, who killed and ate them at the East Cape. Now, Haupa was grieved at this loss of our women-folk, and sent a party to Nga-Puhi to arrange an expedition to revenge their death. Te Whetu-o-te-rangi and Takaanini were the chiefs who went to interview Hongi, who agreed to come in the following year. 'Whenua-roa' was the canoe they went in. The Whangarei people under Te Morenga went on their own account, some of our people joining them. They attacked the tribes from Tauranga to East Cape.

"In the next year came the great fleet of Nga-Puhi to Hauraki, and we all met at Tararu and set out for Tai-rawhiti (the East Coast) to revenge the women relatives stolen, killed, and eaten. Village after village were captured, the people thereof being killed and eaten, and only such captives spared as were required to carry the plunder. The killing began at Tauranga, and did not end till we captured and took the great *pa* at Tolaga Bay of Ngati-Kahungunu,



Group of canoe-sterns from East Coast, and a small bone chest. Hamilton collection.

where lived Hine-mati-oro, their great chieftainess. Hine was then of great age. She remembered the visit of Captain Cook when he called there. Her people, when the *pa* was surrounded by us, got her away. The *pa* fell to our party, and here was taken from Ngati-Tamatere the famous greenstone *mere* called 'Te Heketua' in the following manner: A party was escaping from the *pa*, one of whom, Kauhu, was carrying their baby chief, Te Kani-a-Takirau, and our chief Potiki followed to kill the child. Potiki caught up to Kauhu fording a river, and raised his iron hatchet to strike. Kauhu remonstrated at being killed with such a commonplace weapon, and handed him the *mere* that he might be more worthily slain.\* Potiki took the *mere* and gave him the hatchet, and spared

\* See "Wars between North and South Tribes of New Zealand," page 151, by S. Percy Smith.

Kauhu and the child Kani-a-Takirau, who owing to the death of his father was the lineal chief of Te Aitanga-a-Hauiti from their ancestor Maui-potiki, and grandchild of Hine-matioro. Matioro's niece was taken captive to Nga-Puhi, where her descendants live now. 'Te Heketua' is now in our possession, and held by Takurangi Kerema (Mrs. G. Graham), at Oneroa (Shoal Bay), Wai-te-mata. Te Kani grew to manhood and became a great chief. Such is the history of our great canoe expedition to the East Coast.

"There were other things which then happened, but it would take too long to recount.

"Concerning the canoe 'Whenua-roa,' this was an ancient canoe made before Cook's visit, by Ngati-Tama-te-ra. When that tribe killed our chief's (Horeta) brother Tauira at Whitianga, some years after, he and his tribe, Ngati-Whanaunga, defeated them in battle on the Waihou and besieged them in their village at Te Tutu. The people tied their canoes by the bow to the fencing of the *pa*, and 'Whenua-roa' had a guard of men in her. Horeta was wounded by a spear-thrust through both cheeks, and pulled the spear out with his hands, and, being jeered at by those on the canoe, he crossed the river alone, calling out threats of vengeance. The canoe-guards called out that his temper was like a woman's—*i.e.*, not to be feared. He waded to the canoe, and, getting aboard, scattered the men, killing and wounding several, then, unfastening the ropes, floated her away, and so we got possession of that great canoe of Ngati-Tama-te-ra. At that time also their chieftainess Rangiinoia was taken captive and married to one of our chiefs, and in after-time brought peace between us. Horeta was known, because of the manner of his capturing the canoe 'Whenua-roa,' as 'Te Taniwha' (The Monster) until the time of his death.

"Other great canoes that I remember were 'Ahi-motu-kura' and 'Hura-whenua.' These belonged to us—*i.e.*, Ngati-Whanaunga—and were built by Ngati-Pikiao (Arawa). When that tribe visited us at Miranda\* in the years before the Treaty of Waitangi these two canoes were presented to my father, Te Airoa-te-Ngahuru, he giving in return some muskets and ammunition. These canoes were used in trading-visits to Wai-te-mata, and also in visiting our relatives at different places. On the outbreak of the Waikato war, when we heard that the Government was destroying all our canoes, we hid them in the bush on the coast, where some still lie, but 'Whenua-roa' is now on the sandspit. When the trouble arose in Auckland in the early days concerning Hoera we organized an expedition to enforce satisfaction, and we had the canoes 'Ahi-motu-kura' and 'Hura-whenua' and others; Ngati-Paoa had 'Te-koko' and others; and Ngati-maru had 'Rahiri' and others. There were twenty-five canoes, and Ngakapa was the chief of Ngati-Whanaunga. 'Te-koko' was the canoe the Ngati-Paoa used when they joined with Nga-Puhi and attacked Totara, some years before that *pa* was again attacked and its people slain by Hongi.

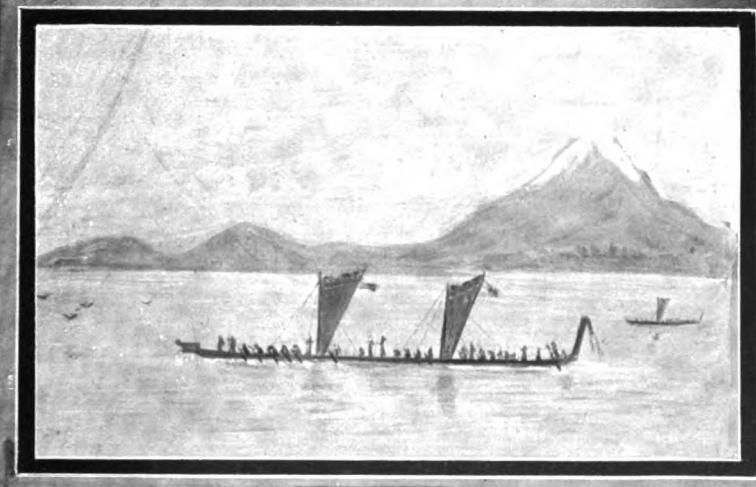
"Now, the carvings of a Maori canoe are not mere ornament, they have a meaning. The European looks at a book or picture and gathers thoughts from the letters or figures therein. So a carving conveys meanings to the Maori. The *tau-rapa* (stern-post) of a canoe conveys the following tradition to the Maori mind: The feature of the carving of the stern-post of a canoe is the figure with a protruding tongue. This is the god of navigation and tempest, Tawhiri-matea, and the canoe is supposed to be his tongue. By the breath of Tawhiri-matea more than by the mere strength of the paddles is a canoe successfully propelled and reaches its destination.

"The carvings on the stern-posts of 'Ahi-motu-kura' and 'Hura-whenua' are of the following origin, from Arawa tradition (that tribe having carved these): After the 'Arawa' canoe left Hawaiki under the command of Tama-te-kapua, a chief of Hawaiki decided to follow Tama-te-kapua, who had taken his wife. This man's name was Rua-eo, and by the aid of his god a canoe was provided and successfully navigated to New Zealand, arriving at Motiti Island before the 'Arawa,' which spent some time exploring the coast. The name of Rua-eo's canoe was 'Puka-a-Wainui,' and the canoe is said to have been the tongue of his god; hence the carving of the head with the long tongue."

\* So called after H.M.S. "Miranda" in 1863.



JOHN MACKAY, GOVERNMENT PRINTER, WELLINGTON.



# MUSEUM BULLETIN No. 2



NEW ZEALAND.

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# DOMINION MUSEUM.

(A. HAMILTON, DIRECTOR.)

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## BULLETIN No. 2.

### FISHING AND SEA-FOODS OF THE ANCIENT MAORI.

BY THE DIRECTOR.

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WELLINGTON.

BY AUTHORITY: JOHN MACKAY, GOVERNMENT PRINTER.

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1908.



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## INTRODUCTION.

---

THE present Bulletin will be devoted almost entirely to the publication of a number of photographs illustrating the subject of fishing as practised by the ancient Maoris.

When I was engaged on the preparation of the material for "Maori Art" I found that there were several important subjects that could not be included in the scope of that publication, owing to the large number of plates required to properly illustrate them. Amongst others, the subjects of fishing and of stone implements had to be excluded. I trust that the present publication will remedy the deficiency as far as fishing is concerned. The subject of stone implements must, however, still stand over.

One difficulty which faced me then still exists, and that is the impossibility of procuring reliable information on the details of the subject, such as the seasons for certain fish, the marks for fishing-grounds, the technical names for the parts of fish-hooks, &c., and traps, and more minute details of the art in general. Much that is on record is imperfect and disappointing. There is no doubt that in this, as in other things, there was a marked difference due to locality, and that local needs developed local types of sinkers, hooks, and nets. In time it may be possible to work these out, but much will depend on the way in which collections are made and recorded. The sandhills round our coasts still contain many treasures yet to be exposed by the winds, and if proper and authentic records are kept of what is found, there will be eventually a great body of evidence which will yield new facts. The inland fisheries are included in the scope of the Bulletin, and details will be given as far as possible of the methods adopted on the lakes and rivers.

Since the establishment of the National Maori Museum a considerable amount of material has been brought together, and I propose in this Bulletin to illustrate the subject by photographs from objects in the Museum and in private collections in the colony.

The information concerning the use of various kinds of hooks and nets is still very unsatisfactory, and it appears as if the time has gone past when any information of value can be obtained.

The subject is one which was of great importance, and played a conspicuous part in the daily life of the Natives, and by their toil and industry they reaped a rich harvest from the ever-sounding sea. Nature had placed a plentiful supply of fish and edible Mollusca easily accessible to the hands of the Natives, and the lakes and rivers contributed to the support of the teeming population of Maori New Zealand.

The patience and ingenuity of the race is well shown in the well-made hooks and sinkers found in the large shell-heaps, and their industry by the great heaps of fish-bones and shells found in middens around the coast. Bone hooks and barbs are specially numerous, and remain in good preservation long after the wooden part and the flax lashings have decayed and perished. Barbs and hooks of stone are rarer.

Stone sinkers for fishing lines and nets are still plentiful along the coast-line. Some idea of their number may be gathered from the fact that one collector, in the neighbourhood of Patea, collected as many as five hundred in a few years.

Considerable interest attaches to certain hook-shaped ornaments, mainly of greenstone, which were probably used as amulets or charm-stones.

From the plates the whole history of the manufacture and use of the bone hooks can be followed, and the advent of the white man is heralded by the use of copper and iron hammered into the old form, and the gradual disappearance of the hook of wood and bone.

The specimens figured will afford an opportunity for comparisons with the fishing appliances of other countries.

On the title-page I take the opportunity of publishing a photograph, kindly furnished by the authorities of the British Museum, of an old Maori sail for a canoe, woven from split flax, and corresponding in every particular with the sketches and illustrations in the works of early voyagers to the colony. Even the appendage suggesting a flag is present, and the cords by which the sail was handled. At the time of the publication of the first part of "Maori Art" I was unaware that a specimen was in existence.\*

\* Forster, "Cook's Voyage," vol. i, p. 217, describes the sail and the feather-tufts along the top. He does not, however, mention the flag-like appendage.



## SOME OF THE MYTHOLOGICAL AND HISTORICAL TALES OF FISHING, THE SEA, THE SEA-GODS, AND THE GREAT SEA-MONSTERS.

---

FOREMOST in interest amongst the ancient sacred stories of the Maori race was that of the fishing of Maui, one of the labours of the Polynesian Hercules to which we are indebted for the islands of New Zealand. Numerous versions of the story are known, and some day they will no doubt be edited and studied in detail. The story has suffered many local adaptations in the course of the centuries, and it will be interesting to trace the source of these various lections.\*

The story of the dragging of an island from the deep as a fish, even in its New Zealand form, is found elsewhere in the Pacific, but, of course, referring to the emergence of other islands from the deep to the light of day.

Even more interesting to us, and less easily explained, is the story of the greenstone found by Ngahue. The greenstone, or Pounamu, was a fish deity, a son of Tangaroa. His brothers were Poutini, Te Whatu-kura-a-Tangaroa, and Te Whatukura. Pounamu is also said to have been generated in the liver of sharks, and, until exposed to the air, to be quite soft.

Almost the earliest event in the history of Maui is a tale of the sea, for when Maui was thrown into the sea by his mother, wrapped in a tress of her hair, the water-spirits wrapped the baby in soft seaweed, with cushions of jelly-fish, till Tama-nui-te-rangi took charge of it.

Then we have the great sea-king, the Polynesian Neptune, Tangaroa, known as the lord of the deep by the people of a thousand isles—Tangaroa, the son of Rangi and Papa, Tangaroa the large-eyed, the husband of Te Ano Matao. In his realm are many of the lesser marine gods, as Tuna, the eel-god ; Naha, the *atua* of flounders (*patiki*) ; and Punga, the *atua* of the fish called by us a gurnard or gurnet (*kumu-kumu*).

---

\* See the elaborate essay by Schirren on the Maui Mythos.

Of lower degree are the sea-monsters—Parata, the swirling whirlpool; the female sea-demon, the Marakihau,\* sucking into her mouth through her funnel-shaped tongue the fishes large and small; and the Taniwhas of river, pool, and stream.

The fairies who were surprised in their revels, and left their fishing-nets to Kahukura, on the moonlit strand—magic nets, which became a pattern for men—though not sea-maidens, come within the scope of our inquiries.

Even in the silent stars the imagination of men of old saw the great hook of Maui, which he used in raising the islands from the sea, set in what is known to us as the constellation of Scorpio.

In the midnight sky Te Hao-o-rua is the *kupenga*, or net, seen in the heavens near the constellation of Orion, or Te Kakau. The story says, “Autahi said to Tariao, ‘Let us travel by land, that we may avoid entering the Mangoroa (the Milky Way).’ Tariao replied, ‘No; my desire is that the Mangoroa do enter the net.’ So Tariao dwells within the Mangoroa, and it was Tariao who fixed Tu-oreore and Tuputupu (the Magellan clouds) as pillars or posts for the net.”†

As in other countries, dangerous currents and whirlpools were said to be the haunt of some sea-demon, and in one of the stories of the migration the Waha-o-parata was escaped with difficulty by the Arawa canoe.

The ebbing and flowing of the sea was supposed to be occasioned by a huge sea-monster—whose home was far off, low down in the depths beyond the horizon—through its power and deep respiration. The monster’s name was Parata, and one of the solemn maledictory spells given by Colenso begins thus, “Dreadful big beetling precipices, deep down in ocean’s depth, listen! obey! Be quick and lie scattered to the one side and to the other, that the mighty Parata may go to work. Parata! hear! blow thy irresistible overwhelming tides strongly hitherwards to the shore.” This was done so that the seaside forts and villages (always close to the beach, and sometimes built on it) might be injured by the sea, and so easily overcome, and their inhabitants scattered, and, with their canoes, destroyed.

In shallow water lives the sea-monster Matarua, who is responsible for disturbances of the ocean depths, when the water is too discoloured with mud so that no fish can be caught.

Perhaps we should have mentioned earlier the fountains in the sea, called Rangiriri, from whence proceed all fish.‡ According to one tradition, Ika-tere is the father of fishes. Seaweed (*rimu*) was used as an offering of gratitude to the sea-gods who brought in safety the Maori people over the vast ocean of Kiwa when they reached the shores of Aotea-roa. Fish were also offered to the great and

\* Figure 75.

† Jour. Poly. Soc., ix, p. 111.

‡ Pol. Myth., p. 325; Anc. Hist. Maori, p. 40.

mysterious deity Io on certain occasions,\* and again there is a mention of a ceremony, "Cook two fish . . . put them one over the other, and perform the customary ceremonies when offering to the male and female gods."†

Different localities had their guardian gods, as, for instance, the marine deities guarding the Hokianga Bar are Taungeri and Arai-te-uru.

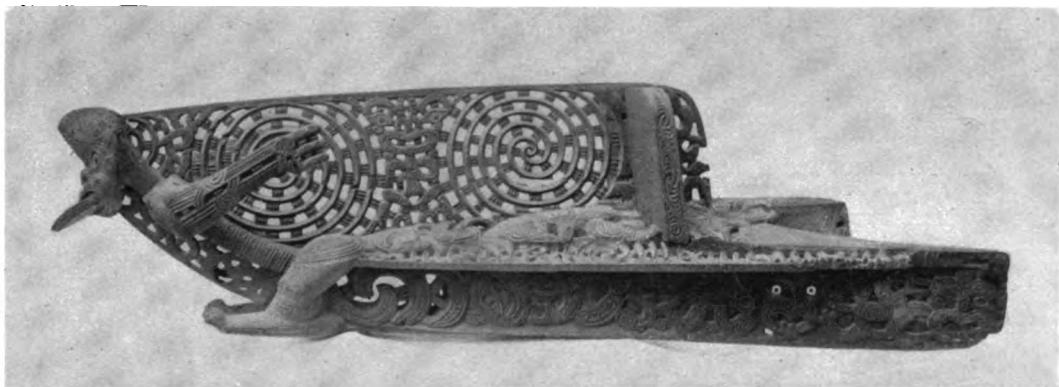
In some of the old fishing-songs of the Maori a long-forgotten place called Rangiriri is mentioned as a fresh-water spring in the ocean—the source of all fish.

A strong fresh-water spring rising to the surface of the sea is to be found some distance from the coast-line near Waimarama, in Hawke's Bay, and the reef in the neighbourhood is noted for the fine fishing to be obtained there.

\* *Anc. Hist. Maori*, iv, p. 88.

† *Anc. Hist. Maori*, ii, p. 39.





## THE HARVEST OF THE SEA.

---

### MAMMALS.

THE only branch of the Mammalia affording any food or valuable spoil to the Native, excepting the Native rat and introduced dog, was that portion inhabiting the surrounding seas. In the South Island there were numerous places where the fur-seal and the sea-leopard (*Ogmorhinus leptonyx*) were fairly numerous, and sometimes even a sea-lion (*Macrorhinus leoninus*) would stray up from its more southern home. The middens yield traces of these three, and small ornaments are found made from the teeth. In the North Island I have only found traces of the sea-leopard, which is still an occasional visitor to those parts. It is perhaps scarcely within the limits of an article on fishing, but, as inhabitants of the realm of fishes, seals were clubbed and eaten in considerable quantities ; therefore they are mentioned here. Still less claim, perhaps, have the Cetaceans to our consideration ; but in one way or another whales (*tohora*) were of great importance to the Maoris, and a sharp look-out was kept for any that might be stranded.

Legends state that an old-time wanderer, Ruawharo, brought with him, when he came to New Zealand from Hawaiki in the Takitimu canoe, some of the gravel from Te Mahia Beach, in that country. The gravel, which was the *mauri*, or the enticing charm for whales, was spread on the beach (also called Te Mahia) at the northern end of Hawke's Bay, and since then unto the present day it has been a favourite place for whales, many being stranded there. I have myself seen four or five young sperm-whales ashore at one time.

The whale most prized was the great sperm-whale (*Physeter macrocephalus*). From the lower jaw all sorts of bone weapons could be made, and rarer jewels from the great teeth. Other members of the whale family were frequently stranded, but were not so highly prized, as little use could be made of them. Some of the smaller whales, known to us as black-fish (*Globiocephalus melas*), were used as food, as it is recorded that when the great chief Rauparaha and all the principal chiefs

of Ngatitoa were on their way to Ohau they were feasted by the Ngatirahira (a hapu of Ngatiawa) upon the flesh of the black-fish, a large school of which had been driven ashore at low water, when the Natives ingeniously tethered them by their tails to strong flax and rope, killing them as they were wanted for food.\* And again, in an ancient story,† the guests were fed on the flesh of a whale and of the *hakura* (another sort of whale).

When the European and American whalers sailed into these waters in pursuit of the right and the sperm whale, they were always able to recruit a number of daring and willing hands to "fish" for the great sea-monsters in the wide seas. From that time to the present much of the coastal whale-fishing has been done by the Maoris.

In speaking of whales, we must not forget the story of Tinirau and his pet whale, Tutunui. A long time ago there was a quarrel between Maui, the great Maori hero-god, and Irawaru, his brother-in-law, the end of which was that Irawaru was transformed into a dog. Maui's sister, Hinauri, was so distracted at the loss of her husband that she went to a rocky height and uttered her death-song, beginning thus :—

Ever lamenting—  
Henceforth I am ever imploring  
To the stealthy one of the ocean,  
To the big Parata of the ocean,  
To the huge monsters of the ocean,  
To the enormous whale of the ocean,  
That he may come hither  
That Hina may be swallowed up.

So saying, she threw herself into the sea.

When next we hear of Hina she is the third wife of Tinirau, the great chief of Motutapu. She had been found floating in the ocean, covered with weeds and barnacles; but had been revived, and taken to wife by Tinirau. In consequence of this, a child was born, and Tinirau sent to the celebrated Tihi-o-manono for a skilful priest named Kae to perform the proper ceremonies over the child, who was named Tuhuruhuru.

The ceremony over, the usual great feast was given, when Tinirau called for his pet whale, named Tutunui (big gamboller), who was then away in the ocean disporting itself, and when it had run itself in near to the shore, a large portion of its fat side was sliced off, and baked nicely in the earth-oven for Kae. The old priest made a hearty meal, enjoying greatly the deliciousness of the fat flesh of the whale. After this Kae wished to return to his own place, and a canoe well manned was got ready to take him thither, but he was not willing to enter the canoe, and so he

\* T. C. Williams: A letter to the Right Hon. W. E. Gladstone on behalf of the Natiraukawa Tribe, 1873, Appendix, p. 30.

† *Anc. Hist. Maori*, iii, p. 43.

remained there. This, however, was but a bit of deceit on the part of Kae, a cunning stratagem played by him that he might return riding on the pet whale's back, for he had both heard of its great usefulness in this way to its master, and had also tasted of the sweetness of the flesh of that fine fish. At length Tinirau consented, and lent him Tutunui, to serve as a canoe to carry him home through the sea, at the same time giving Kae precise instructions how to act, saying, "When thou art nearing the shore, and the fish begins to shake itself, then be quick and jump off on the right side." Soon after Kae left Motutapu, and went on fleetly through the sea; on nearing the shore of his own place, the big fish began to shake itself, in order that Kae might jump off and go on shore; but Kae would not do so; he kept his seat on the fish, and repeated his spells, and pressed it down in shallow water on to the sands, where its spout-holes soon got filled with sand and gravel, and the fish died. Then Kae directed his people, and they dragged the whale on shore to feast on, being such delicious food. They cut up the whale and baked its flesh in their earth-ovens, using the fresh leafy green twigs and branchlets of the *koromiko* shrubs (*Veronica salicifolia*) as wrappings for the rich fat junks; hence it is that to this day the oil has ever remained in those branches of the *koromiko*, and from that circumstance arose the old adage of our fathers, "Behold the fragrant oil of Tutunui!" (a saying often spoken when those branches are used by the Maori for similar cooking purposes, the shrub being everywhere very common; and its clean smooth inodorous leaves highly fitting it for such a use, and when freshly taken off from the cooked food they present a wet glistening oily appearance). Tinirau waited for the return of his big pet Tutunui; he waited, however, in vain. Some time had passed, and he began to say anxiously to himself, "Wherever can it be? so long away." By-and-by, when the main cooking of the whale for storing was done, and the large ovens were uncovered, the wind being in the right direction wafted the rich smell of the baked fat right away on to Motutapu, and both Tinirau and his wife smelt it, and knew that their pet (lately given to their first-born son Tuhuru-huru) had been killed and eaten by Kae and his people. Then it was that, after due consultation, the big canoe of Hineiteiwaiwa, the sister of Tinirau, was launched and got ready.\* Forty women were told off to go on board. Among them were the following great ladies besides Hineiteiwaiwa herself—viz., Raukatauri, Raukatamea, Itiiti, Rekareka, and Ruahau-a-tangaroa. Only women were to go in the canoe, to lull any suspicion as to the cause of their coming. On leaving Motutapu, Tinirau's sister asked him, "What is the particular mark or sign by which Kae may be surely known?" and Tinirau replied, "By his large broken cross teeth." So they paddled away. On landing at Kae's place they were well received by the people, who gathered from all neighbouring parts to see and admire the strangers. In the evening the usual fires were lit up in Kae's large house of assembly, and there the

\* Their best canoes were always kept hauled up high and dry, placed on logs with skids, and under cover, and often dismantled, and it always took some considerable time to refit them.

people all collected together with the visitors, and on their doing so, one whole side of the building (according to Maori custom) was allotted to the stranger guests. Now, Kae's own place was at the foot of the central column. Then Raukatauri and her party showed their skill at amusements : they sang their songs with appropriate action ; made music on their different kinds of flutes and fifes ; they performed many tricks of dexterity with their hands and fingers and rods, after the popular Maori customs ; all of which took a long time ; but still Kae never once joined in the merry general laugh. Then those women began to consider among themselves, while sitting and resting awhile, "Whatever more shall we do to make Kae laugh ?" (This they said, because they were not quite sure which of the chiefs in the big house was Kae ; and it was contrary to all Maori etiquette for visitors to ask the names of persons of the place visited.) At last they hit on a plan, which proved successful ; and all those women got up to perform it—a lively kind of joyous dance, full of antics and outrageous gesticulation, singing also words in unison. And on their coming to the end of it, which was very jocular and rollicking, Kae could no longer contain himself, but burst out into a hearty and long laugh. Then it was that they clearly saw his teeth, and knew for certain that the man sitting by the centre post was Kae. (And hence this proverb has been handed down to us from our fore-fathers, whenever any sullen moody person laughs at the word or doings of another, then some one present is sure to say, "*Ka kata a Kae !*" = Kae laughs !) After this, the night being advanced and the performances over, the fires were extinguished, and preparations made for sleeping. The wily old priest, however, was in part suspicious ; therefore he took two round pieces of mother-of-pearl shell (*Haliotis iris*), and cunningly fixed them into the orbits of his eyes, that those women visitors might be led to believe he was still awake, from the glistening of the pearly shells (for, according to Maori custom, he could not know the reason of their visit until they should choose to inform him, which might not be for some days). The women, however, were on the alert ; they secretly performed their spells, and sent the whole house into a deep sleep, Kae also. Then they arose, and having got their canoe ready afloat, they all came and formed themselves into a long line leading from the door of Kae's house to their canoe, standing in pairs at equal distances. This done, two of them entered the house and took up Kae fast asleep in his mats, and passed him on carefully from hand to hand until he was fairly placed on board of their canoe, when they performed another deep-sleeping spell over him, and so carried him off. On their arriving at Motutapu, Kae, still soundly asleep, was carefully taken up, carried and placed at the foot of the central column in the big house of Tinirau. Now, Kae's house was of circular form,\* and Tinirau's house was long and angular. Kae being thus secured, Tinirau instructed his people how to act in the early morning, saying, "When I go out of my sleeping-house in the early morning,

\* This probably points to the story belonging to a more ancient house of the Maori, as a round house was almost unknown to the New Zealand Maori, except perhaps as a cooking-house.

do you all set up the usual loud cry of welcome to a visitor, and say, 'Here comes Tinirau ! here is Tinirau ! ' as if I were a visitor just landing." So at broad daylight Tinirau went forth from his sleeping-house, and the loud cry was set up, "Here comes Tinirau ! here is Tinirau ! " (as if he were a visitor chief loudly welcomed on his arrival). Kae, hearing this noise, awoke up from his sound sleep, and sat up on his mats. Tinirau went forward, and sat down outside, at the verandah entrance into the big house where Kae was ; there he saluted Kae in the usual manner, saying, "Greeting to thee, O Kae" ; and adding, "Who brought thee hither to this place ?" On this Kae replied (thinking he was in his own place and house), "Nay ; rather let me ask, Who brought thee hither ?" Tinirau rejoined, "Look, and see the form of this house." Kae did so, and said to Tinirau, "This is my own house." Tinirau then said, "Whereabouts is the window placed in thy house ?" Kae turned and looked, and then he knew from the different appearance of the house that it was Tinirau's, saying, "Verily, so it is ; this is Tinirau's own house !" Then he bowed down his head, well knowing his fate. So they dragged him forth, and immediately killed him. When Kae's people heard of it they made great preparations to avenge the death of Kae ; they collected together and came over in large bodies to Motutapu ; there they fought several times, and at last succeeded in killing Tinirau's son Tuhuruhuru, but not till after he had grown up and had married, and had sons born to him. And then Tinirau went to work to avenge the death of his son Tuhuruhuru ; and so a deadly exterminating war was carried on, ending in the destruction of many on both sides.

#### FISH.

When describing the plates I shall have occasion to mention most of the fish that were commonly caught and eaten by the Natives, so it is not necessary for me to enumerate them now, especially as it would probably be found that nearly all fish of sufficient size were eaten at one time or another if large enough to make it worth while catching them.

#### MOLLUSCA.

A very remarkable feature of the coast-line of New Zealand is the great extent of the hills of blown sand, in some cases reaching far into the interior. Until the arrival of the white man, these hills and dunes were covered with a coarse vegetation, which prevented much damage by the prevailing winds ; and in the hollows and sheltered places just behind the first ridge of sand the Maori loved to build snug little *raupo* huts, and in some cases houses of a more substantial nature. A large part of the year was employed in fishing and obtaining stores of food from sea and river. From the North Cape to the Bluff, the site of these villages or camps can be traced by the enormous heaps of the shells of the Mollusca most plentiful in the immediate neighbourhood.

In one instance, near the mouth of the Shag River, I measured a section of a heap of shells (*Mesodesma novæ-zealandiæ*, the common long *pipi* of the Maori), which was 340 ft. long, 4 ft. 6 in. in thickness in the centre, the remaining part covering the half of a rough circle having a radius of about 50 ft. The deposit was partly removed by the river, which had cut into the sandhills at that point, and the heap, of course, thinned out towards the edges ; but what remained must have represented an enormous number of shells. Other heaps were found, but not of such a size. In digging through one heap, mainly composed of *Chione stuchburyi* (*huai*), it was noticed that in a number of instances as many as ten or a dozen of the empty bivalves had been placed one in the other.

At the mouth of a small river running through dense bush, at Tautuku, south of the Catlin's River, in Otago, the action of the river-current has cut away the bank at the top of the sea-beach, on which grows a dense forest of large trees, mainly *Griselinia*. The section so exposed showed for a considerable distance—perhaps 50 ft. or more—a bed of shells, mixed with fragments of *moa*-bones, fish-bones, and dog-bones, about 4 ft. in thickness, and extending back as far as we could trace it under the roots of the trees. In many places tons of shells had been carted from these old sites, to be placed on paths and roads.

Nearly all the common species of Mollusca were appreciated as food, and, following the example of the Natives of Hawaii and other Pacific islands, they set aside the squids and octopus as food only to be enjoyed by high chiefs, or Arikis.

The species found in the shell-heaps have been noted by me for the last twenty years, and I now give a list of those found in sufficient numbers in middens to warrant their inclusion in a list of the species used as food.

Nearly all the large univalves had the upper spirals broken off with a stone, to render the extraction of the animal more easy. A considerable number of *Struthiolaria* are sometimes found with a hole roughly pierced in the last whorl, near the mouth. These have been strung on a necklace. A fine specimen of a necklace of this kind is to be seen in the Maori collection in the Canterbury Museum.

The following is a list of the univalves : *Siphonaria australis* ; *Purpura succincta* ; *Purpura haustrum* ; *Trophon stangeri* ; *Siphonalia*, sp. ; *Cominella*, sp. ; *Scaphella pacifica* ; *Lotorium spengleri* ; *Apollo argus* ; *Amphibola* ; *Struthiolaria*, sp. ; *Litorina* ; *Turbo viridis* (*pupu*)—small hooks were made from a part of this shell, but are not common ; *Haliotis iris* ; *Patella*, sp. (*ngakihi*).

*Dentalia* were collected on the north-west coast, between Mount Egmont and Raglan, and threaded carefully into a necklace of either six or nine strands. These white tusk-shells are mentioned in a saying used if you wish to compliment a lady on the perfection and whiteness of her teeth : “ Your teeth are like the *pipi-taiari*.”

The *Haliotis* (or *paua*)—especially the large species, *Haliotis iris*—deserves more than a casual mention, as its glorious colouring was much admired, and combined with nearly every carving in the eyes of the figures represented. Much could be said about the careful selection of the portion of the shell to be used. This was especially the case with the curved piece required for the *kawhai*-hooks, and the small rings inserted in the eyes of the *taiahās*. The people living on the west coast of the North Island, between Wellington and Auckland, used *Haliotis* (or *paua*) shell in inlaying their carvings, and did not confine their use of it to the eyes. The pieces were of various shapes, and the effect is, to my idea, not pleasing. In another part of this Bulletin mention will be made of some very delicate composite fish-hooks made from pieces of *paua*-shell. The *paua* were obtained from the rock-pools at low tide; and in the southern part, about Dunedin, bone implements, sharpened like chisels, and about 7 in. long, are found which have been used for detaching the shell from the rocks (*maripi paua*). Sometimes the men would dive into the deeper pools, where the largest shells were found, and Mr. White\* has recorded a story of the feats of Kahungunu in obtaining quantities of these shell-fish. The animal was taken out of the shell, and, if not required immediately for food, was strung on lines of flax, and dried in the smoke of a fire for future banquets till it attained the consistency of indiarubber. Kahungunu had a partiality for the *hua*, or “roe,” as the story says, of the *paua*, and reserved that for himself. In the same volume, page 229, it is recorded that women collecting *paua* at Otangitūka were attacked and killed by a flying party of their enemies. The *Haliotis* shell was sometimes used as a lamp, by filling up the small holes with clay, and using oil or grease, with a wick of the tow of flax plaited. A collection of useful articles found in a cave in Central Otago many years ago contained a large *paua*-shell which was full of long-dried-up red paint, together with the ball of flax tow that had been in use as the paint-brush.† *Paua*-shells with traces of paint in them are frequently found in the old middens on the Otago coast. The coarsely woven flax basket in which *paua* were collected is called in some parts *kawhiu*.

Bivalves are easily obtained from the sandy shores and mud banks in estuaries, and at all times of the day women were to be seen diligently collecting *pipis* in the large openwork flax baskets, and carrying them to the *kaingas*.

The largest and best *pipi* are found in fairly deep water, and I once witnessed a comical incident as I was crossing the bridge from the Western Spit to Napier. At the northern end there is a channel, on the edge of which very good *pipis* are to be found; but even at low water the swiftly flowing tide makes it difficult to get the *pipis* out of the sand, even if the device is resorted to of holding the kit in position with one foot and scratching the shells into it with the other. On this occasion three stout, strong young women were working a partnership. The three stood side by side up to the elbows in water, or perhaps a little more. The middle one

\* *Anc. Hist. Maori*, iii, pp. 82 and 89.

† *Trans. N.Z. Inst.*, xxviii, p. 174.

took a long breath, and plunged to the bottom, scratching the shells with both hands into a kit held in position by the feet of the others. The feet of the diver were straight up in the air, and held tightly by the two assistants, to keep the worker in the proper place until she had to come to the surface for a fresh supply of oxygen. It was then the turn of one of the others to take the middle place. In some places *pipis* are collected by canoes working in pairs, each pair having a many-pronged fork like a stout eel-fork, which the occupant of the canoe thrusts into the sand, while his companion hauls it out with a rope, raising the shell-fish, which cling to the fork.

Great interest was taken in preserving the best parts of the shell-fish beds, and occasionally a chief would *tapu* them to prevent their being exhausted by being overworked.

In "Maori Art"\*\* I have figured some small pendants in the shape of human teeth cut from the shell of a bivalve, but no great use seems to have been made of the bivalves as ornaments or material for ornaments. The shell of the *kuku*, or large mussel, was used in preparing flax and peeling potatoes, and a pair made good tweezers to extract undesired hairs on a well-tattooed countenance.

The chief genera of bivalves found in shell-heaps are *Myodora*, *Dosinia*, *Chione stuchburyi*, *Anaitis disjecta*, *Tapes intermedia*, *Mactra ovata*, and *equilatera*, *Standella*, *Tellina*, *Mesodesma*, *Pecten*, *Ostrea*, and *Glycimeris*.

Concerning the *toheroa* (*Standella*), it is said that one Mareao brought it with him from Hawaiki, and planted it on the west coast of the North Island. In this part it is found of great size, sometimes more than 6 in. long, especially on the coast to the north of the Manukau Harbour. It is esteemed a great delicacy by the Maoris, who often make expeditions to the long beaches of Rangatira and Rapiro to collect it, when it is cooked in the Maori oven or *hangi*. An enterprising firm in Auckland has recently started a factory for canning *toheroa*.

Besides these marine Molluscs, a large number of fresh-water mussels—*Diplodon* or *Unio* (*kakahi*)—were consumed.

Mussels (*Mytilus*) were taken out of the shells (*mai*), and dried like the *paua*; *pipis* of various kinds were also threaded and dried for future use.

#### CRUSTACEANS.

The principal item in the bill of fare taken in this group was the *koura*—the large red crayfish (*Palinurus* or *Jasus*)—and the fresh-water *koura* of the lakes and streams (*Paranephrops*). A number of traps and pots of various kinds were baited and set for these dainties, and they were also, in time of plenty, slightly smoked and dried, strung on a strip of flax.

Shrimps (*Kouraura*) were, I believe, sometimes collected from the weedy banks in shallow inlets; and small crabs (*rerepari* or *papaka*) from the rock-pools.

\* Part iv, pl. 50.

## ECHINODERMS.

Sea-urchins or sea-eggs (*Echinus chloroticus*) (*kina*) were gathered from the rocky pools at low tide, and eagerly devoured. They are still so appreciated that large bowls of them may frequently be seen for sale in the fish-shops in Wellington and other places.

## SEAWEEDS.

Two or three kinds of purple and green seaweed were collected, dried, and boiled into jelly, and flavoured with the juice expressed from the *tutu* (*Coriaria*).

At the Maori pa at the Christchurch Exhibition the women several times brought home green *ulva* and a purple seaweed from Sumner and Lyttelton, which they dried, and then boiled slowly with sugar.

A seaweed of another kind called *karengo* is also used in this way in Hawke's Bay.

The first pieces of seaweed caught in a newly made net were preserved, and as soon as possible laid on the *tuahu*, or sacred place of the people to whom the net belonged.

A large seaweed was also used for holding preserved birds and fat by the southern Natives, who ingeniously split the seaweed (kelp) and made large bags. These seaweed bags were also used to contain whale-oil\* at Wellington.

A curious sea polyp found in deep water is called *rimu*, or sea-totara.

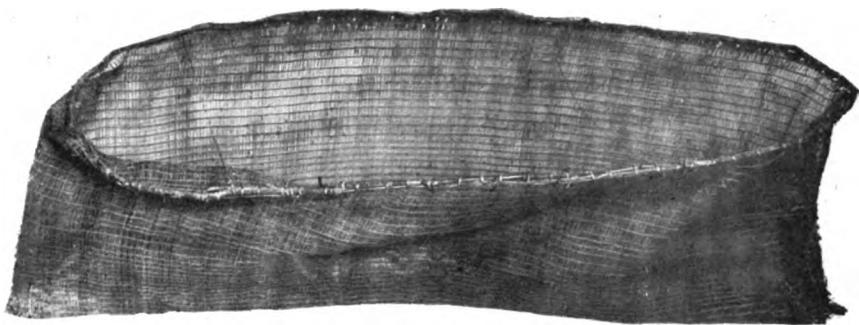
## ASCIDIANS.

A curious pedunculated Ascidian (*Boltenia*) was occasionally eaten in default of better food.

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\* Angas, "Savage Life and Scenes," vol. i, p. 237.





NOTES ON MATTERS CONNECTED WITH THE SEA AND WITH THE ART OF FISHING  
AS PRACTISED BY THE NATIVES OF NEW ZEALAND, WITH ILLUSTRATIONS OF  
THE IMPLEMENTS, ETC., USED IN PROCURING FOOD FROM THE SEAS, LAKES,  
AND RIVERS, MAINLY FROM SPECIMENS IN THE NATIONAL MAORI COLLECTION  
IN THE DOMINION MUSEUM, WELLINGTON.

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SAIL OF A MAORI CANOE.

THE title-page of this Bulletin bears a photograph of a Maori-canoe sail, probably the only specimen in existence. Through the kindness of Mr. J. Edge Partington, I was supplied with an excellent photograph taken from a sail which had been for many years rolled up in the great collection in the British Museum. I have been unable to find out anything as to where it came from, or when it was acquired, but as we know from the early voyagers and travellers that this type was the form universally found on the north and north-east of the North Island, we may locate it as coming from probably the Bay of Islands. It is woven of fine strips of either flax (*Phormium*) or *kiekie* (*Freycinetia*), and has loops for the poles or sprits (*titoko*) by which it was kept in shape. From it depends a flag-like appendage, which is, I think, not copied from the European flags, as similar appendages may be found on sails in other parts of the Pacific. The top of the sail and the edges of the flag are adorned with tufts of pigeon-feathers.

Beneath is given a little sketch showing the sails in use, although the canoes are being paddled at a fair rate. I have seen old sketches where the sail has been used with the broad end downward—possibly when a stiff breeze was blowing.

The sail is called *ra*, or *rawhara*; the sheets, *kotokoto*; the upper sprit, *takotokoto*; the lower sprit, *tatakoto*.

## FISHING-CANOE.

The canoe here figured was in daily use on the coast a little to the north of Gisborne when the weather was suitable for fishing-trips. A short distance away were some reefs, in the crevices and holes of which the pots were set, baited with pieces of offal or a bird of some kind, for the large sea-crayfish, which is very similar to the English lobster. The Natives are very fond of crayfish, and in the neighbourhood of towns large numbers are sold in the fishmongers' shops. The canoe is decorated with a carved figurehead, and is a good sea-going canoe.



Fig. 1.—Maori fishing-canoe at Poverty Bay, with basket traps for sea-crayfish.

## FISH-HOOKS, ETC.

All collectors come across hook-shaped objects of greenstone, bone, or steatite, and the variation in size, shape, and general finish is most astonishing. The first of the three specimens here figured is made of an inferior kind of greenstone, and, though sufficiently hook-shaped to come into this category, it is quite as suggestive of the dried sea-fish commonly called a sea-horse as anything else. This I found on the sandhills at the entrance to Waitati Inlet, near Dunedin. The central object is made of the best quality of greenstone, and is certainly the most beautifully worked greenstone ornament that I have ever seen in New Zealand. The absolute symmetry and the grace of its curves show the hand of a master workman. This ornament was dug up near Kaiapoi, in the South Island. The third specimen is equally beautiful in execution and form, but it is a more easily worked material, being cut out of the tooth of a sperm-whale. This belongs to His Honour Mr. Justice Chapman, and was found in the sandhills near Dunedin. It measures 44 mm. x 46 mm.

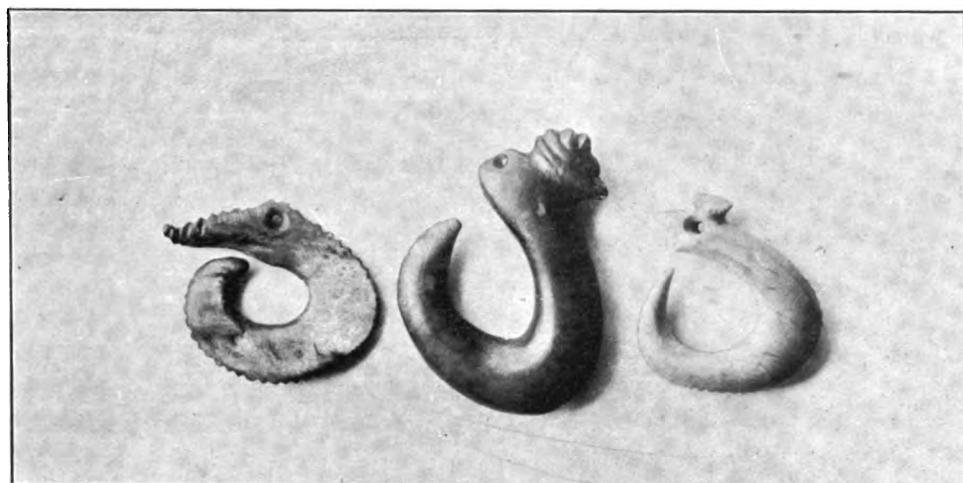


Fig. 2.—*Hei matau*—Ornaments in the form of a fish-hook.

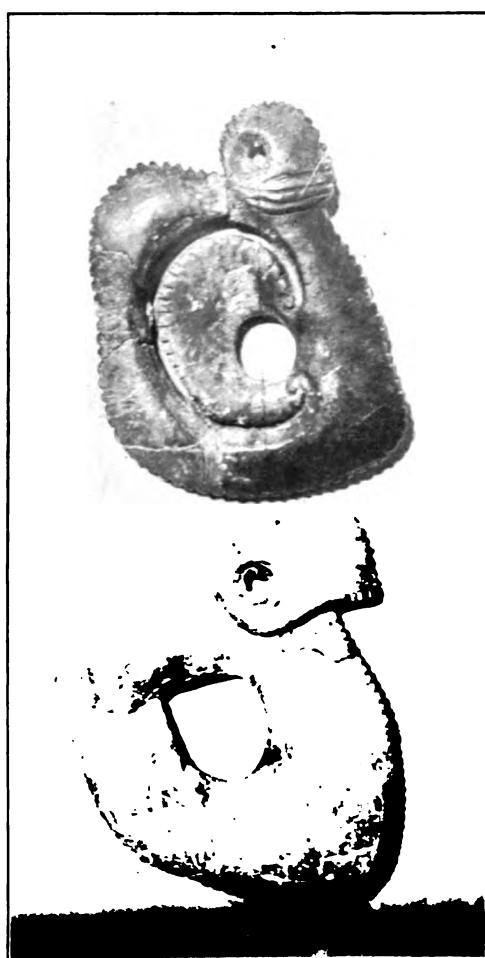


Fig. 3.—*Hei matau* of steatite.

2—DOMINION MUSEUM.

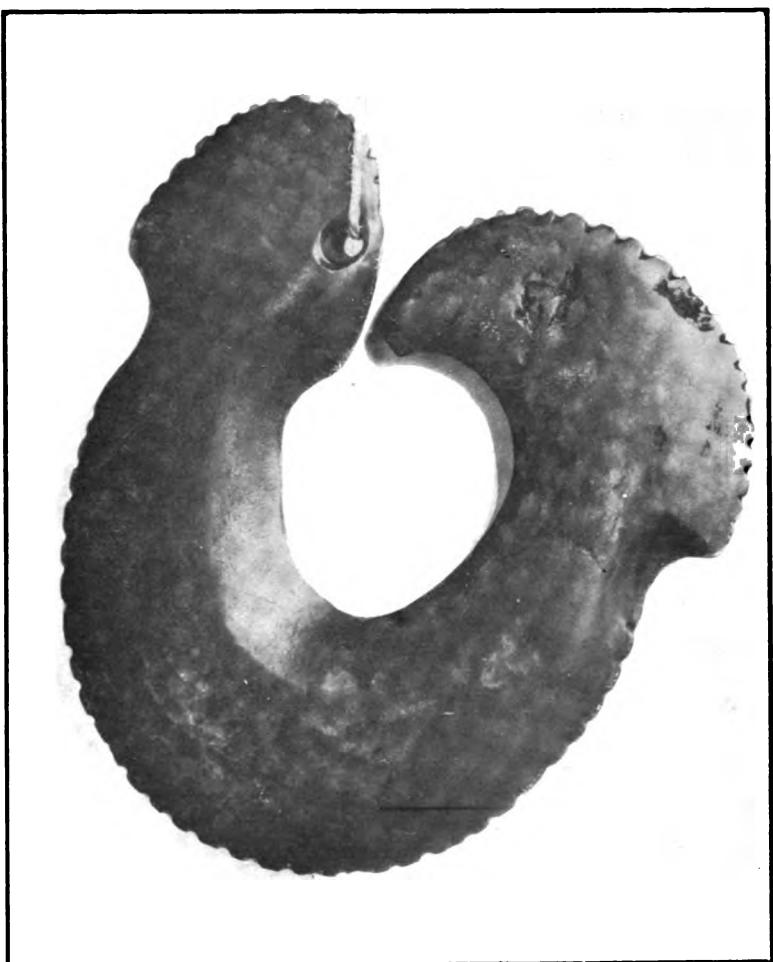


Fig. 4.—*Hei matau* of greenstone.

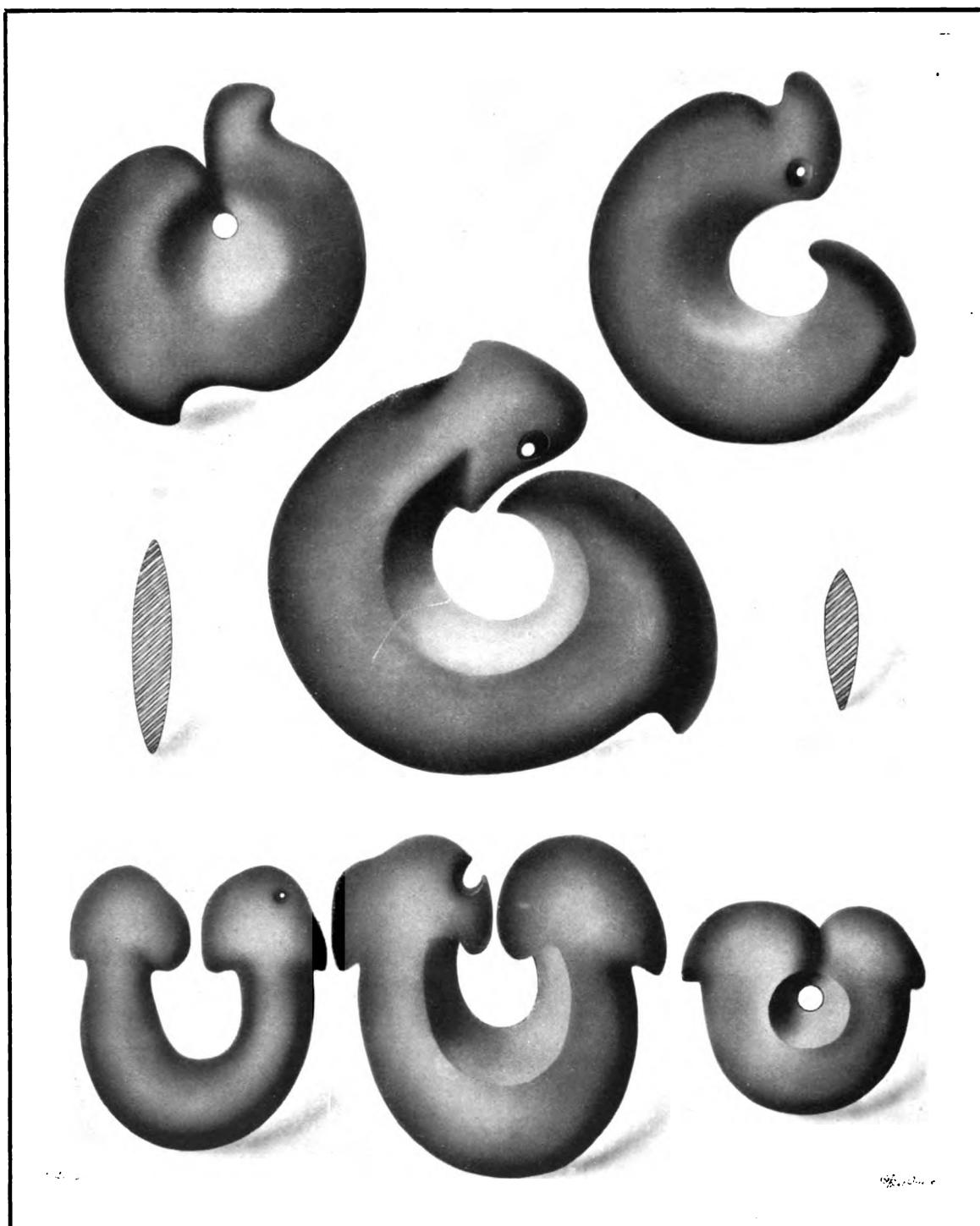


Fig. 5.—*Hei matau* of greenstone.

All three specimens are characterized by the same notched ornamentation—notches so slight as to be hardly visible. I have before stated that I consider the notched ornamentation to be almost peculiar to the earlier ornaments, and possibly pre-Maori in point of time.

In Fig. 3 we have a fish-hook form which has been so generalised that it is almost lost; but, nevertheless, I believe these important specimens to be intended, like those in the preceding and succeeding figures, as amulets in the form of a fish-hook, over which the necessary spells were recited when the owner went a fishing. These steatite hooks were found many years ago by Mr. Mitchell, on the shores of Lake Te Anau, in the ruins of a burnt village, and are in the collection of Mr. A. Turnbull, of Wellington, who has kindly permitted me to figure them. The upper one has considerable grace of line, and both are strongly notched. I would suggest that in one there is a suggestion of a human figure, of which the inside crescentic form is the arm; the hole for suspension, the eye; and the ridges below, the mouth.\* A reference to the last figure will also show a similar suggestion in Nos. 2 and 3.

It is also true that in Fig. 6 of two bone hooks the supposed mouth-lines are grooves for the fastening of the line, but a reference to Fig. 2 will show a fully carved face in the same position.

The two bone hooks (Fig. 6) were found buried with a skeleton at Papanui Inlet, Otago, and are very fine specimens of work in the hard bone from the jaw of the sperm-whale. It is possible that these may have been used for actual fishing, as they are no more "impossible looking" than the North-west American halibut-

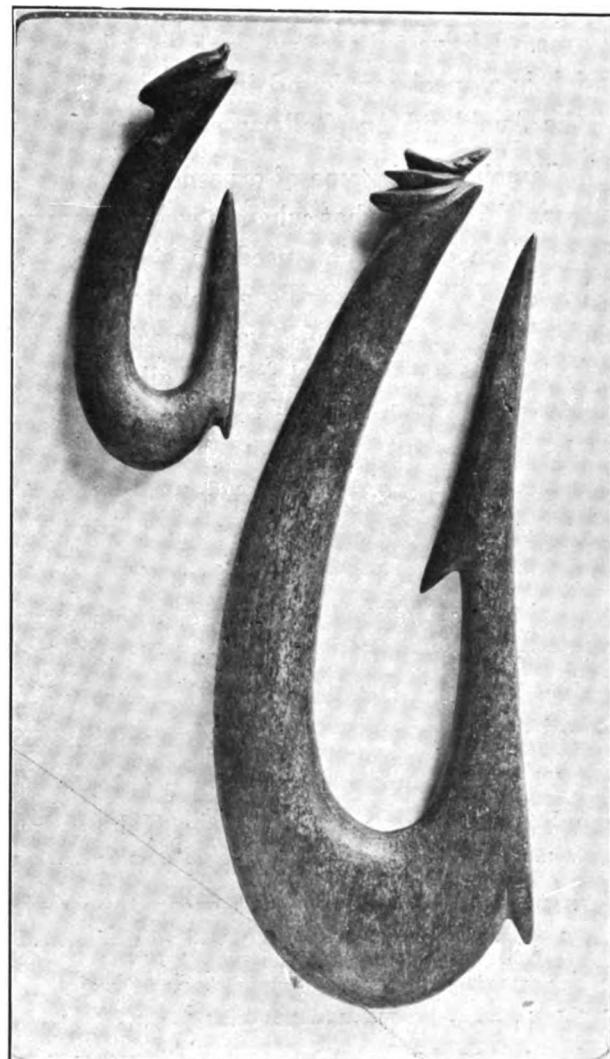


Fig. 6.—*Hei matau* of bone.

\* As all the carved figures had a significance, we may suppose such a figure to be a symbol of the great ocean-ruler Tangaroa, or of Ika-tere, the father of fishes.

hook ; but I prefer to class them as amulets, or luck charms, for the fishermen to carry. Length, 156 mm. (6·15 in.) ; weight, 2½ oz. : and 77 mm. (3 in.).

The *hei matau* is also found in various stages of manufacture from greenstone in the form represented by those given in outline in Fig. 5. In all these the resemblance to a fish-hook is remote, and the form is purely conventional. A most exceptional specimen is figured by me in "Maori Art," pl. xlvi, Fig 2, from a specimen in the British Museum, in which the two extremities are worked into human figures. I have only met with the notched ornamentation on the large central figure, which is a specimen found in the sandhills near Tauranga, and now in the Museum of the Auckland Art Gallery, and on a specimen belonging to Mr. T. E. Donne.

Somehow this type of ornament has been described from time to time as a hair-cutter. It is true that when it was necessary to cut off the hair it was severed by a sharp piece of obsidian used on a smooth flat stone, which was placed under the hair, but I have never been able to get any direct Native testimony that these hook-shaped greenstones were specially used for that purpose. Considering the sacred character of the heads of all those whose hair would be carefully cut, it is extremely unlikely that anything valuable would be used, as it would most certainly have to be destroyed after the operation. Shortland,\* in one of his books in reference to this matter, describes the *pure* ceremony : "When they had dipped in the river, Kahu commenced cutting the young man's hair, which is a part of the *pure* ceremony. In the evening, the hair being cut, the *mauri*, or sacredness of the hair, was fastened to a stone, which represented some ancestor. The stone and hair were then carried to a sacred place belonging to the *pa* (*wahi tapu*)."<sup>1</sup> I do not gather from this that the stone was in any likeness of an ancestor, but that it simply represented one as a guardian of the hair.

The two pendants here shown (Fig. 7) were found, together with a skeleton of a female(?), in a cave shelter in the Hakateramea Gorge, in North Otago. One specimen is not perforated, and is of a different kind of greenstone to the other. The largest is of that translucent greenstone called *tangiwai*. Probably this also is an amulet or charm for an eel-fisher. A number of fragments of similar pendants were in the great collection of greenstones formed by the late Mr. John White, of Dunedin, which is now in England ; and lately a sketch of a perfect specimen has been sent to me by Mr. Townsend, which was found on the West Coast. I have never seen this form from the North Island. The length of the perfect specimen is 145 mm. Both are in my collection in the Dominion Museum.

Tongue-shaped pendants are of great variety, and are specially interesting to us, as they undoubtedly represent an ornament commonly worn by men in the time of Captain Cook, as they appear in several of the portraits given in his voyages, drawn on the spot by the artists attached to his expedition. Both specimens were

\* Shortland, "Religion and Myths," p. 56.



Fig. 7.—Greenstone pendants in the form of an eel.

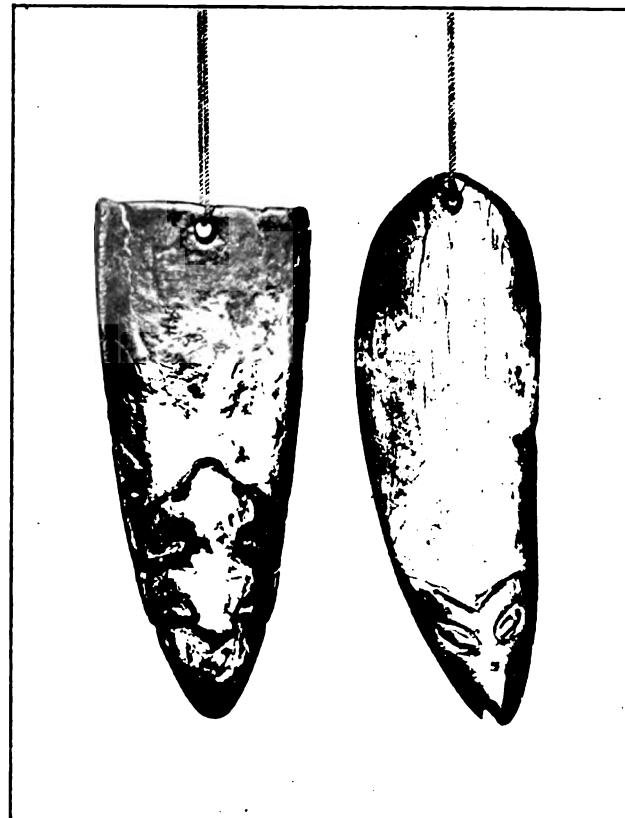


Fig. 8.—Tongue-shaped pendants in bone.

dug up in the South Island—one near Lake Ellesmere and one near Orepuki. One is carved from *moa*-bone, and the other from a whale's tooth. The ornamentation is different in each case, and difficult to explain at present. I believe them to be charms or amulets, probably connected with fishing. They are now in the collection of A. Turnbull, Esq., of Wellington.

I have a whale's tooth nearly cut through by grinding from each side, which was evidently intended to provide material for two specimens of this kind. As these were common in the North in Cook's time, it is very strange that, so far as I am at present informed, only one other specimen is known, and that was sold at a sale in London some years ago. It is true that a gentleman in Auckland has a beautiful pendant in bone that must go into this class, but is not quite the same. One of these has been figured in "Maori Art," pl. xlvii.

*Manea*, or the backs of composite fish-hooks, are placed here, as they were frequently used, without the bone barb, as charm-stones (sometimes called *whatu*) to attract fish to fishermen, after the proper incantations had been made over them to *taki*, or draw the fish from the fountains of the sea. The material varied in different parts of the country. In the North Island they are most plentiful on the west coast, and are made of fine black and grey slates. In the Otago District they are made

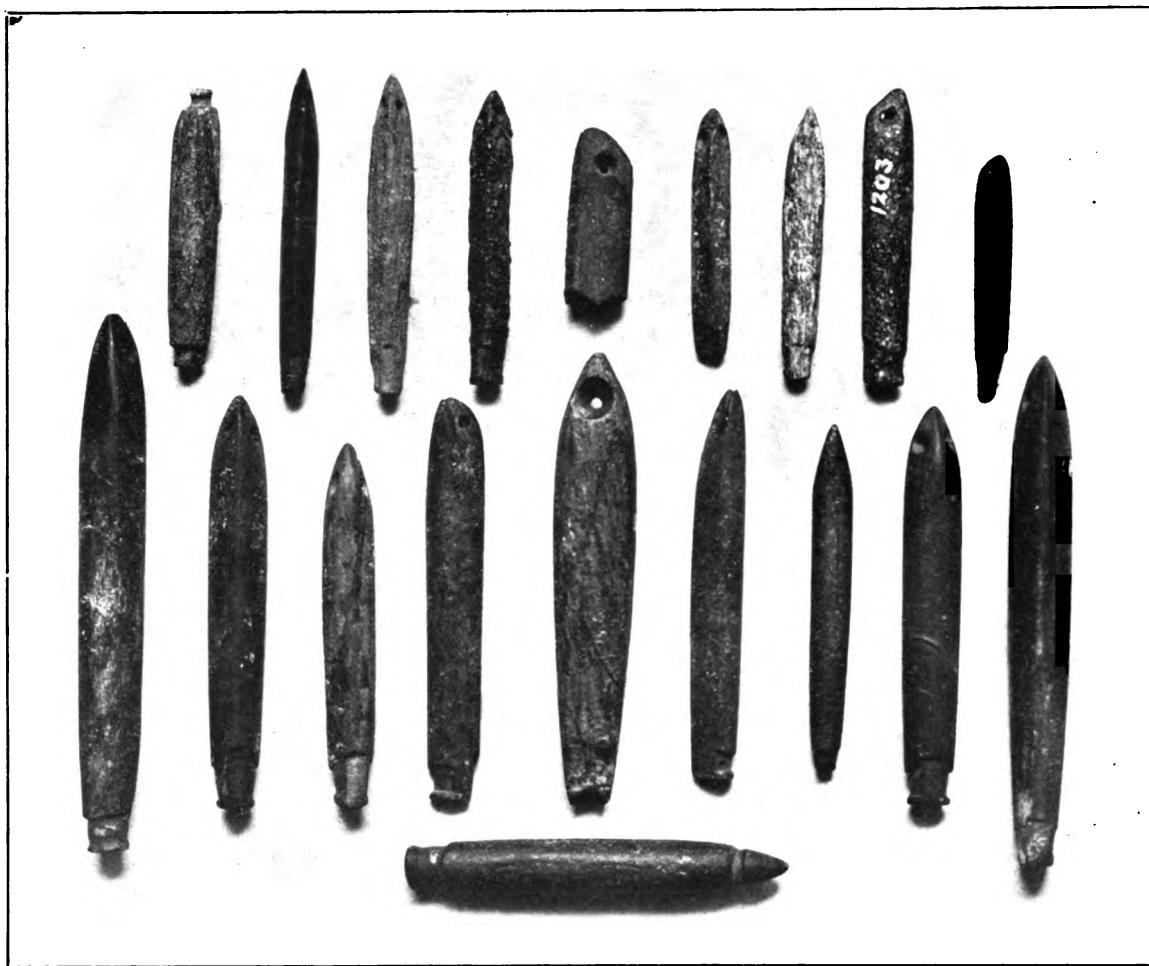


Fig. 9.—Stone charms or portions of fish-hooks (*manea*).

of haematite and other local rocks. They also vary in size from about 7 in. or 8 in. to 2 in. or 3 in., and can be found with all degrees of finish. They are all made on the principle of a jumping fish, so that when towed behind a canoe with a barb attached they attract *kahawai* and other fish. The line passes through the hole at the upper end, and the grooves at the other end are for the lashings with which to lash the bone barb securely to the stone. The weight of the stone causes the hook to have a tendency to sink, but the motion of the canoe forces it through the water, and the ridges near the hole give an upward tendency, which makes it jump like a live fish. For the present, however, we figure these stones as charm-stones, and will mention them as parts of fish-hooks in their proper place. The specimens figured are in the National Collection in the Dominion Museum.

Curiously shaped stones are sometimes regarded as the tribal *mauri* of that portion of the sea; sometimes a tree near the beach is so regarded. The *piha* of the principal fish of, say, *kahawai*, is concealed with the stone *mauri* somewhere near the beach. *Karakia* are repeated over the *mauri*, that it may hold or retain the

productiveness of the ocean, and cause good hauls of fish to be taken. If fish become scarce, the *tohunga* repeats the *whakaara* charm over the *mauri* to waken it up, to cause it to do its duty. He holds the stone *mauri* in his hand as he recites. In the Taranaki District sand supposed to have been brought from Hawaiki was kept in small cup-shaped stones. The *tohunga* recited his *karakias* over this sand, and then it was scattered over the surface of the sea. These cup-shaped receptacles—*punga-tai*—were in use at Waitara until quite recently. The sand was the *mauri* of the *kahawai*. When Ati-awa migrated to Port Nicholson (Wellington) first there were no *kahawai* there, but they sent back to Waitara for some of this sand, and ever after had plenty of *kahawai*.

In 1894 a man was charged with stealing from the bank of the Mokau River a certain historic stone—namely, Te Punga-o-tainui, or the stone anchor of the celebrated Tainui canoe, belonging to the Ngatimaniapoto Tribe. The prosecution was instituted by the Government, as the Natives attributed a number of misfortunes to the removal—for instance, the Natives attributed the bad fishing season to the loss of the stone. The stone was returned, but I have no information as to the result on the succeeding fishing season.

I am informed that it was considered the darker-skinned Natives made the best fishermen, and were most successful in sea-fishing. It is, of course, well known that in the same tribe, and even in the same family, the difference in the colour of the skin was well marked. There are traces of curly hair and very dark skin, which may indicate a survival of the characters of the old race, said to have been found by the Maoris in occupation of the land—the veritable *tangata whenua*.

I am indebted to Mr. S. Percy Smith for the following *karakia* to be recited over a fish-hook :—

*He karakia tenei mo te hi ika, te ika o Tangaroa, ka haere te tangata ki te moana ki te hi ika, ka whiua te matau, katahi ka karakia :—*

He aha tau, E Tonganui  
E whakatuturi ake nei i raro ?  
Ka puta te hau rangawhenua.

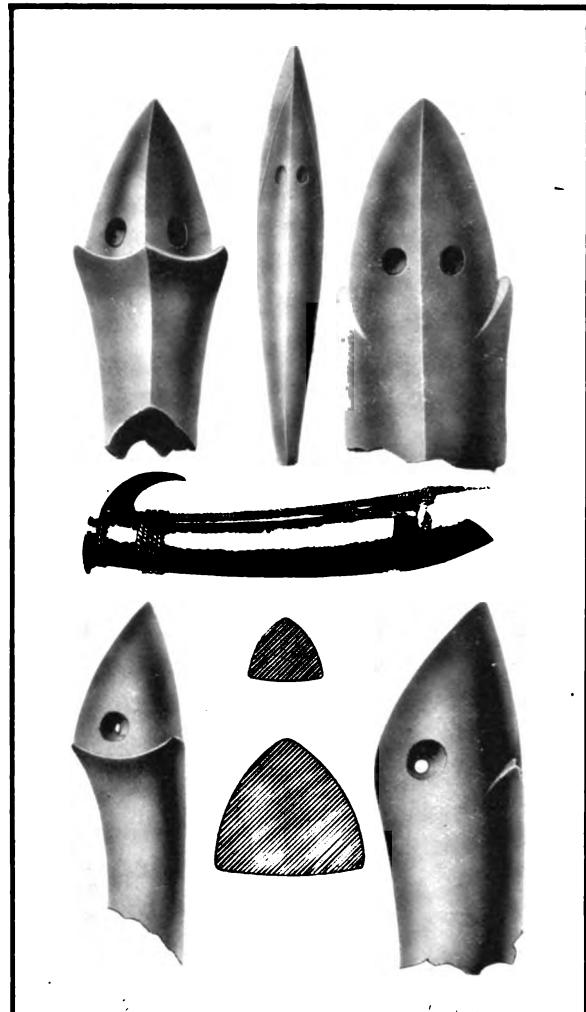


Fig. 10.—Portions of fish-hooks made of stone.

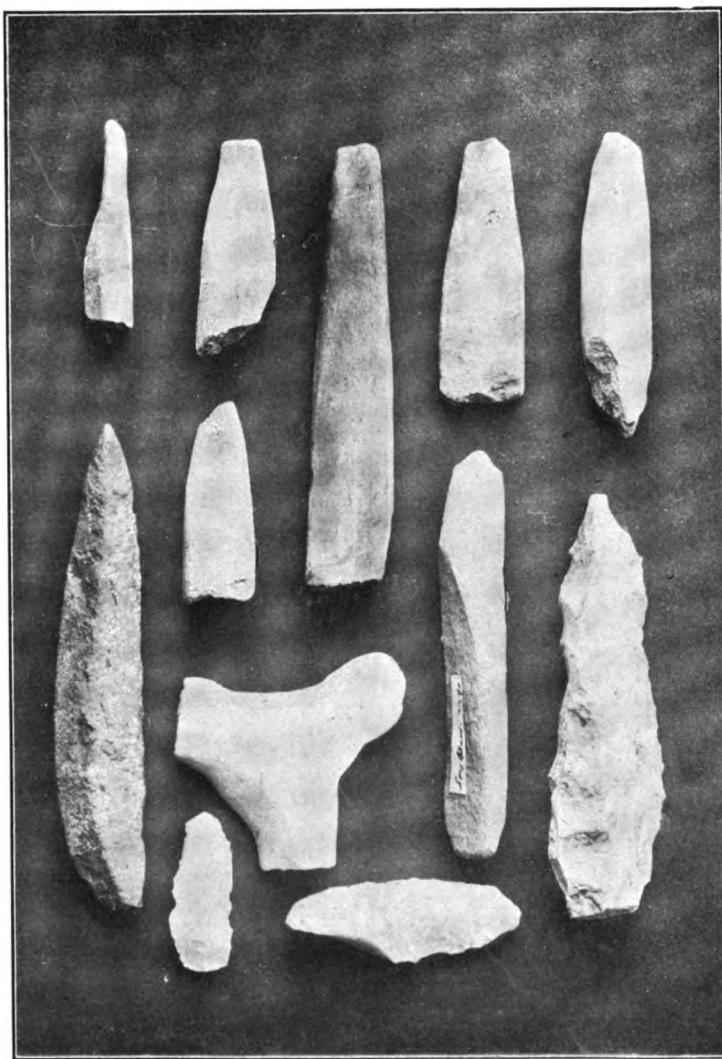


Fig. 11.—Stone tools used in the manufacture of bone fish-hooks.

The first verse is apparently addressed to the owner of the human bone from which the fish-hook was made ; the second is addressed to the hook itself. Rangiriri is the source from which all fish come.

*Heoti ano aku pitopito korero ko enei anake, apa he uri ahau no Tangaroa. Tenei ano nga karakia, otira ehara i te mea mo te hi ika.* (This is my small contribution. Had I been a descendant of Tangaroa it would have been otherwise.)

The Maoris were, as we have said, great fishermen, and probably every man had to keep himself well supplied with the necessary gear, including a good supply of fish-hooks, sinkers, and lines. For the smaller fish delicate hooks of bone and shell had to be prepared, and, as the bone had to be specially selected for its strength and toughness, it was necessary to provide special tools to work the piece of bone into the shape desired.

#### HE KARAKIA HI IKA.

1.

Hei kai mau te tangata  
Makutu mai, mahara mai,  
Kei uira te hara  
Ko hara-aitu, ko hara-a-tai  
I pakia ai koe, i rahua ai koe.

2.

Niho koi, tara koi, kia u o niho  
Niho koi, tara koi  
Kei te tai timu  
Kei te tai pari  
Kai Rangiriri,  
Au kumea, au toia  
Nau ka anga atu, anga atu  
Nau ka anga mai, anga mai.

#### [Translation.]

1.

Man shall be thy food  
By witchcraft and remembered wrongs  
That was thy sin,  
The ill-omened sin, the sin of the sea.

2.

Sharp tooth, sharp barb, firm be thy hold ;  
Sharp tooth, sharp barb,  
In the time of low water,  
In the time of high water,  
At Rangiriri,  
Where currents pull and haul ;  
If you turn away, then turn away,  
If you turn hither, then turn hither.

Amongst the sandhills now covering the sites of fishing villages of the long ago, we find here and there sandstone tools, some thin and narrow, others finger-shaped ; all of them excellent files when used with a little water. Most of them are pieces that have been used and broken and then thrown away, as fresh material was usually at hand, or could be procured. In Fig. 11 are shown some of the common forms from the old Maori villages on the coast near Dunedin. Their shape is suited to the finishing and polishing of the small bone hook made in one piece.

Another tool which was absolutely necessary for the manufacture of a bone hook in one piece was a drill of some kind, so that a start could be made to cut out the central portion. As the point of the hook was in most cases quite close to the shank, it was impossible to cut out the piece of bone in the middle by any other method than that of the drill. With the drill a Maori was wonderfully expert, and

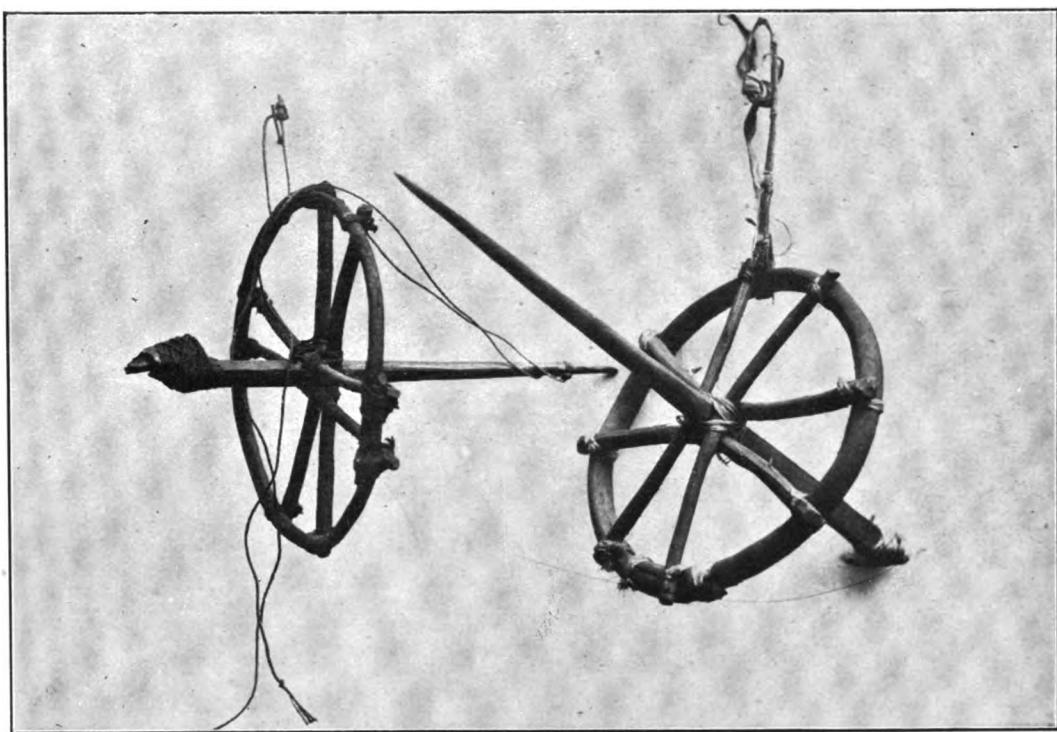


Fig. 12.—Drills used in the manufacture of fish-hooks.

some of his feats in drilling bone were extraordinary. A specimen of the drill used in the Urewera country is given in "Maori Art," and I now figure two drills with thin stone points from Poverty Bay. These differ in having no bar working up and down on the centre-pin, but are put in motion by the alternate pulling of strings attached to the top of the spindle. As this kind required two hands, the sharpened upper end of the spindle was probably held between the lips, to steady the drill at the outset of the work. The downward pull of the strings brought a certain amount of pressure to bear on the spindle. The piece of quartz or flint was attached to the end of the spindle somewhat obliquely.

In addition to these drills, pointed stones, such as those on the right and left of Fig. 11, were used in the hand for starting or enlarging a hole.

Having thus noticed the few tools required by the fisherman, we must proceed to get the necessary material on which to work. After many years' collecting in Otago, I was able to gather a series of specimens which well illustrate the operation of making a small bone hook. The bone must, of course, be solid and strong, and there not being any of the large land animals available, recourse was had to the bones of the whales, now and then thrown ashore by stress of weather. From the lower jaw a great quantity of suitable material could be obtained. There was also another source from which hooks were made, and that was the leg-bone of the giant *moas*. It must be remembered that when a bone has been buried in the earth for a long time,

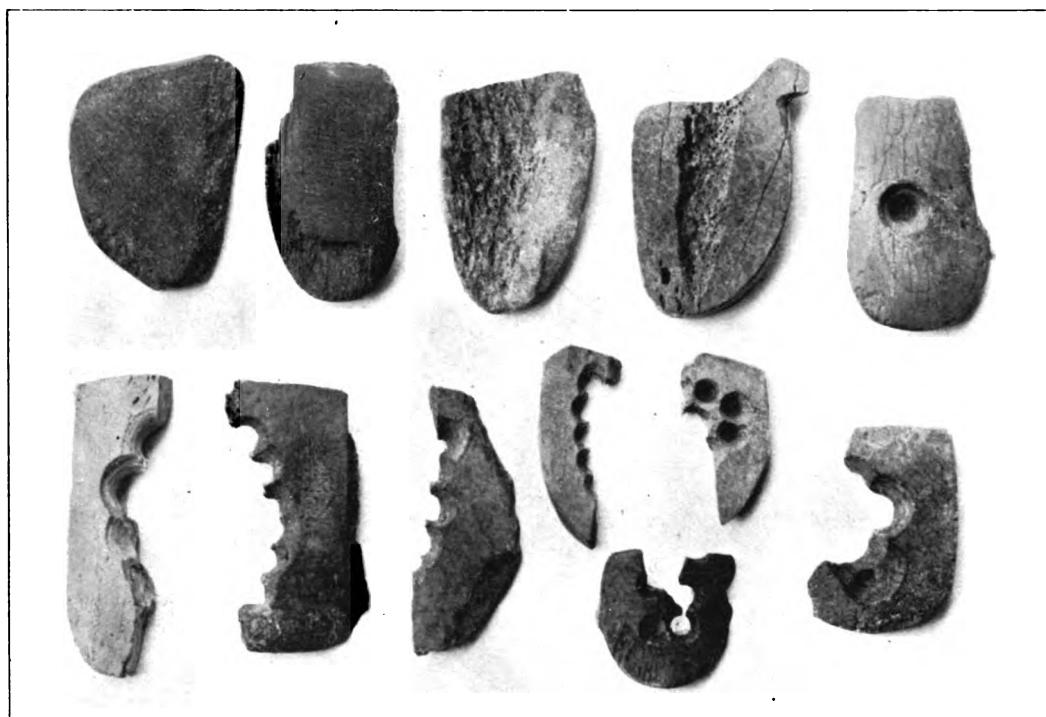


Fig. 13.—Pieces of bone blocked out for fish-hooks.

or has been exposed on the surface to the wind and rain, it quickly loses its gelatine, and cracks, becomes rotten, and falls to pieces or splits into flakes. So many articles are found in the middens and sandhills that are made from the *moa*-bones that we must assume that at the time these were made the bones from which they were cut were in good condition, and possibly fresh. Of course, we cannot say for certain how long ago a hook was made, so that this does not do more than assure us that if the Maori did not see the *moa* alive, as some contend, they must have become extinct so recently that their bones were still in good condition. This would also make all the *moa*-bone hooks and implements date from the very earliest period, which is quite unlikely.

In Fig. 13 are a number of blanks cut roughly into the required shape. The others indicate various stages in the processes of drilling out the centre. In some of them the bone has cracked in the weakest place before the process of drilling was complete.

If the driller was successful, and the hook a large one, a core was cut out surrounded with the half-circle holes. I found a good example of this one day, but accidentally lost it. After the centre had been removed, the sandstone tools were set to work, and soon reduced the hook to proper shape.

In the next figure are a series of bone hooks from the same locality, with the exception of those in the lower line, which are from Hawke's Bay. One broken hook is curious, having been made from a piece of bone on which some one had been practising drilling.

We may take the hooks made entirely from one piece as representing our simplest form, and we can now notice one or two of the subclasses into which this group may be divided. There are first those of bone or shell with no barb, such as are shown on Figs. 14 and 16; then those to which a barb is added; and then those which, in addition to the barb, have a bait-string attached (*pakaikai*, or *takerekere*).

As far as possible, I have kept the hooks made entirely from one piece of shell or bone in one figure, but in Fig. 16 there is first a small hook cut from the outside whorl of a large shell, and next to it, in the centre, a unique and curious specimen of a composite hook found in Southland by Mr. Gibb. The shank is worked out of a sound piece of *moa*-bone, and has a large hole at the base for a lashing; on the inner side is a groove carefully worked to receive the corresponding convex part of the remainder of the hook. There is a hole in the second part to correspond



Fig. 14.—Bone fish-hooks.

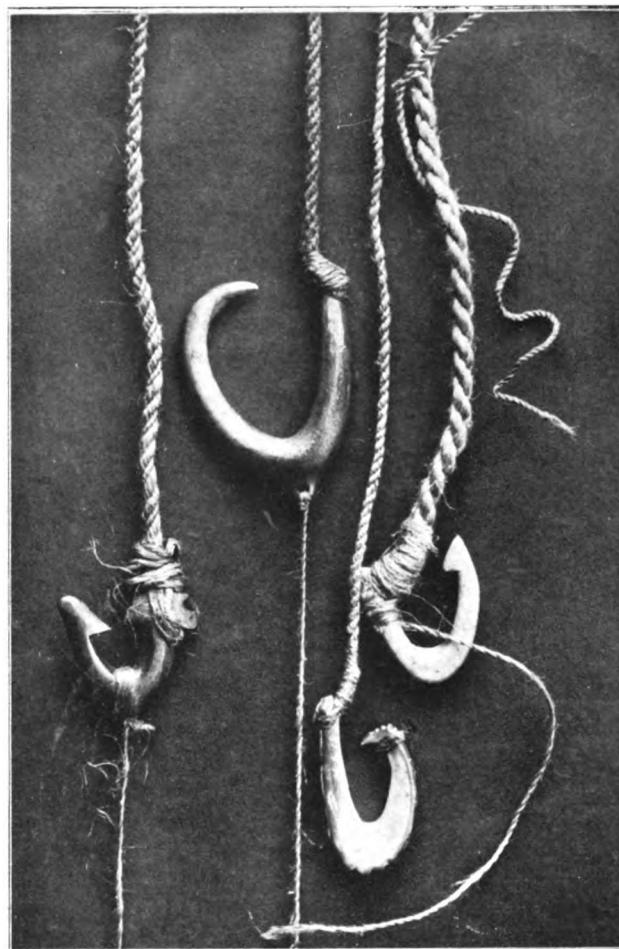


Fig. 15.—Fish-hooks of bone and shells, with cords.

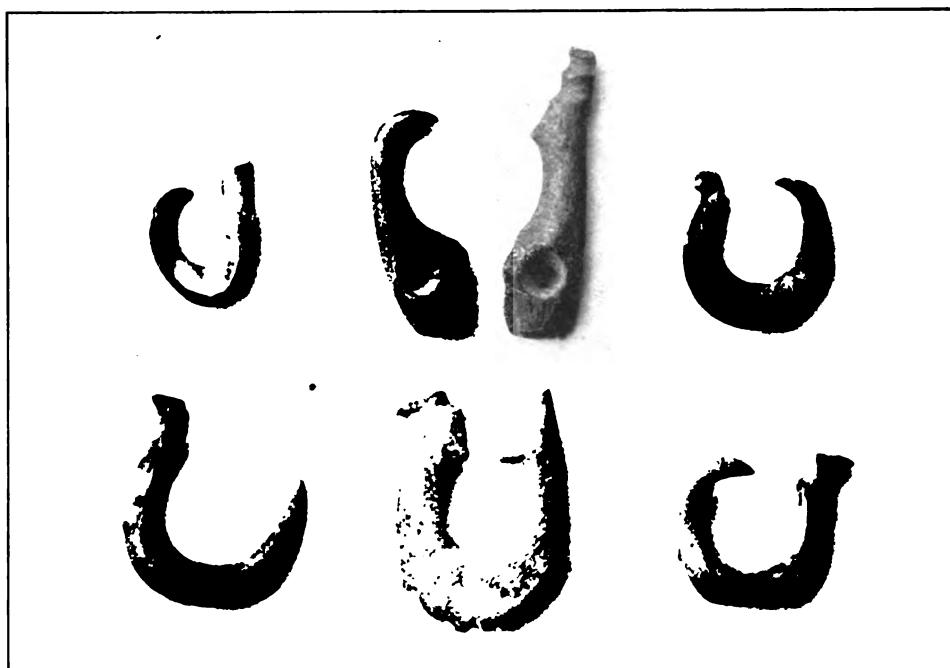


Fig. 16.—Bone fish-hooks.

with the first. I regret that this unique specimen is at present lost. Mr. Gibb allowed me to have it photographed when I was living in Dunedin, and, after leaving the photographer's studio, it seems to have disappeared. I shall be very pleased if it ever turns up again. The centre hook in the lower line has some notches at the bottom, intended to keep the bait-string in its place. All these hooks were found in the South Island.

In Fig. 17 another small shell hook is given, and three bone hooks of three different types. The ornamentation on the larger one is peculiar, and, I think, unique. I think it will be one of great antiquity. The long hook in the centre is a very uncommon type, having a cylindrical rod of bone for a back, with a bone barb lashed to it. All of them are in the Christchurch Museum.

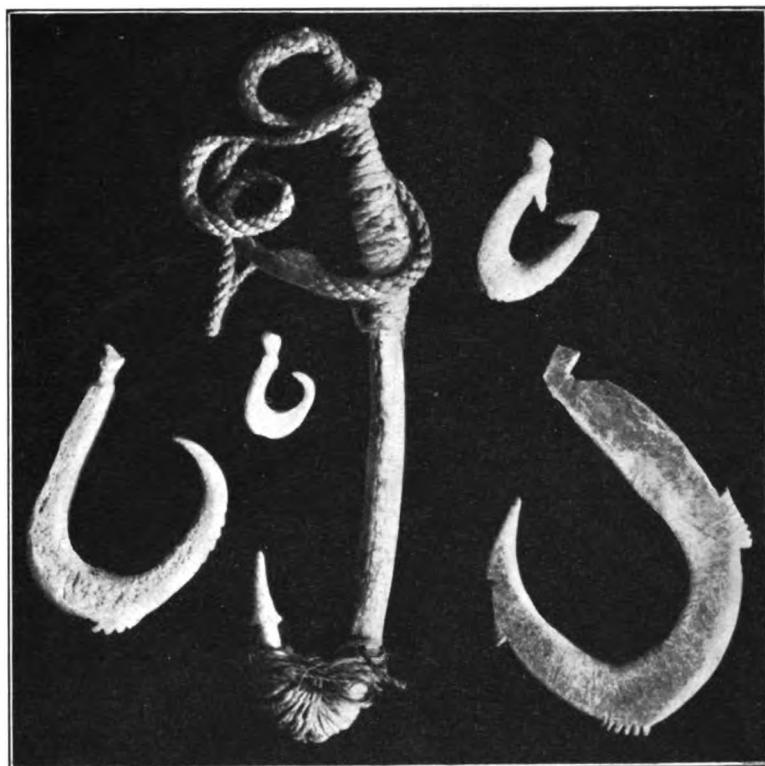


Fig. 17.—Bone hooks in the Canterbury Museum.

Fig. 18 shows a large wooden hook for catching sharks. When a hook of this kind was desired, a piece of wood, suitably bent, was sought for, and it is said that young roots and limbs were artificially bent while growing for this purpose. The scale shows the great size of the hook. It is in my collection in the Dominion Museum, and originally came from a settlement near the East Cape.

Sharks were caught in great numbers for food, both by line and by large nets. The larger sharks were also prized for their teeth. The teeth of the *mako* (*Lamna nasus*) were held in great esteem as ornaments for the ear, their snowy whiteness

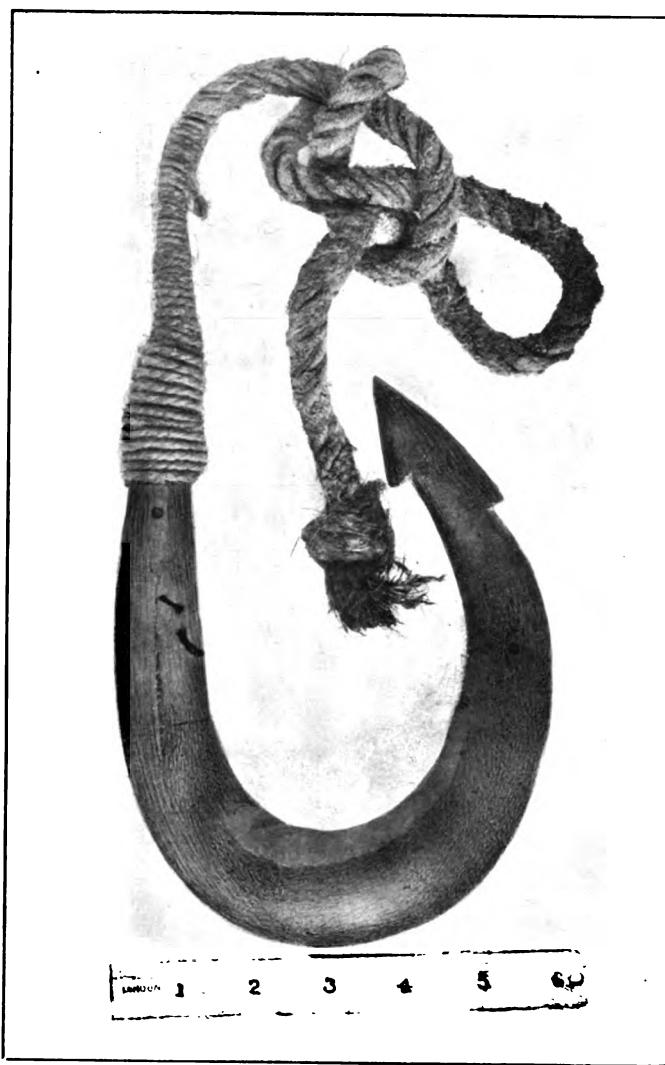
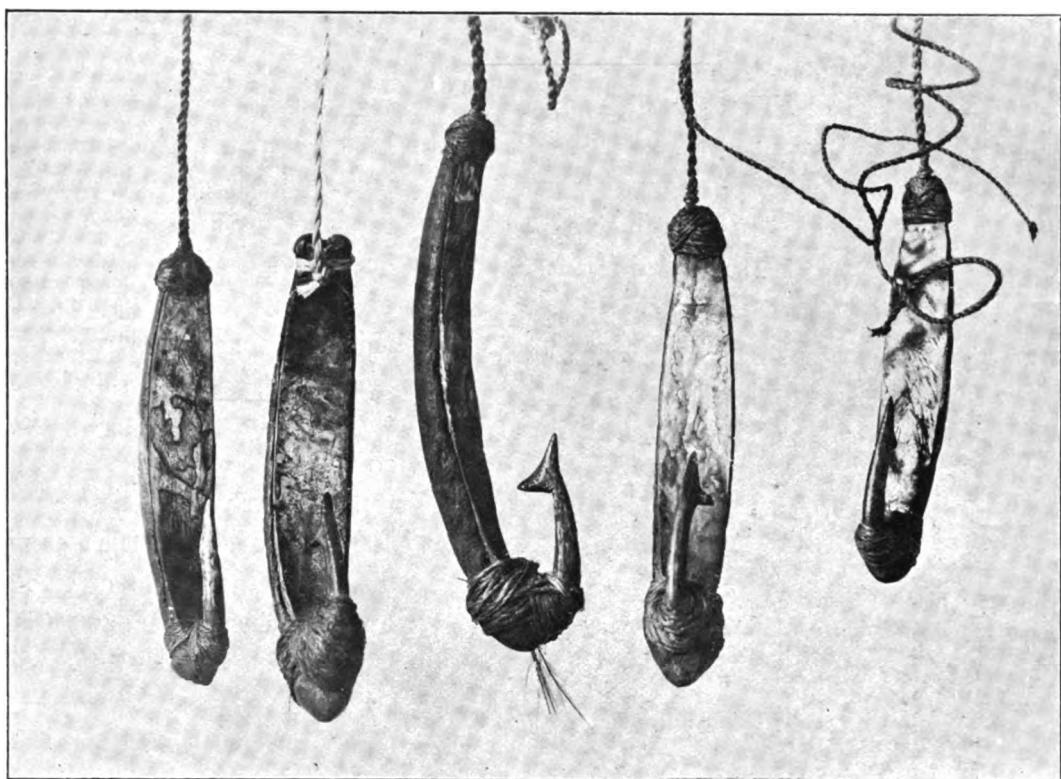


Fig. 18.—Large wooden hook for shark.

Knives, consisting of the teeth of *Heptranchias indicus* set in a grooved wooden handle, were made in the olden days as cutting-tools, possibly at tangis. The teeth were firmly lashed in position with fine flax cord.

Figs. 19 and 20 represent specimens of the well-known hooks made to catch *kahawai*. This was a sport much enjoyed by young and old. The hook is a composite one, and not easily made. There is first the back piece, made from a piece of hard wood ; in a few rare cases it is made of bone, preferably of the bone of an enemy. This is neatly fitted to a piece of carefully selected *Haliotis (paua)* shell. Great care was taken to select a good piece of shell. In rare instances a piece of the inside of the large mussel-shell (*Mytilus latus*) has been considered attractive enough for the purpose. The *paua*-shell slip has a twist in it, and the wooden back is carefully fitted on to it, so that the shell is inlaid. A bone barb is

contrasting well with the dark skin and darker hair. To be a satisfactory pair they must be evenly matched, and have precisely the right curve. After the arrival of Europeans the base of the tooth was covered with red sealing-wax, when it could be obtained, as being more brilliant than the red clay formerly used. In the South Island this shark appears to be very rare, and there is evidence from the old middens that the teeth used all round the coast as ornaments for necklaces were from the blue shark (*Carcharias brachyurus*). All the teeth found have the basal angles rubbed down, and the base bored with two holes. It is just possible that some of these teeth were set together side by side in a groove in a wooden weapon, and used as a fighting or cutting instrument, as some have the base considerably reduced on each side, and ground flat, as if to fit closely against each other.

Fig. 19.—*Paua*-shell hooks for *kahawai*.

then made, usually from human bone, and the pieces are then ready for the lashings, which are to keep the parts together. In fastening the lashings of the barb at the bottom of the hook, a few feathers are generally inserted, usually *kiwi*-feathers, with a few of the bright-blue feathers from the *korora*, or small penguin, or the kingfisher (*kotarekare*), if procurable in the district. The flax line was then attached at the top, the back piece being so fastened as to give an opportunity for firmly fastening it. Different times of day, the character of the sky, the time of the tide required special varieties of this hook, and the fishermen would change the feathers at the end from the brown of the *kiwi*-feather to the light colour of the shredded *muka*, or the bright blue from the kingfisher, just as a fly-fisher tempts his trout or salmon with a March Brown or a Palmer, as his skill and knowledge dictates.

There is a note in an article on “Te Puna Kahawai i motu,” by Tiimi Waata Rimini, translated by E. Tregear, which gives a new version of the Maori obtaining nets from the fairies, or *turehu*, or elves—not the *patupaearehe*, the good fairies. In the article it is said that the fishing season is opened at Motu, on the East Coast, by a young Maori being sent out to catch three *kahawai*. These are presented to the directing spirits (*tupua*)—one to Pou,\* one to Kohinemotu, and one to Te Wharau.

\* Pou is the Moriori god of fish.

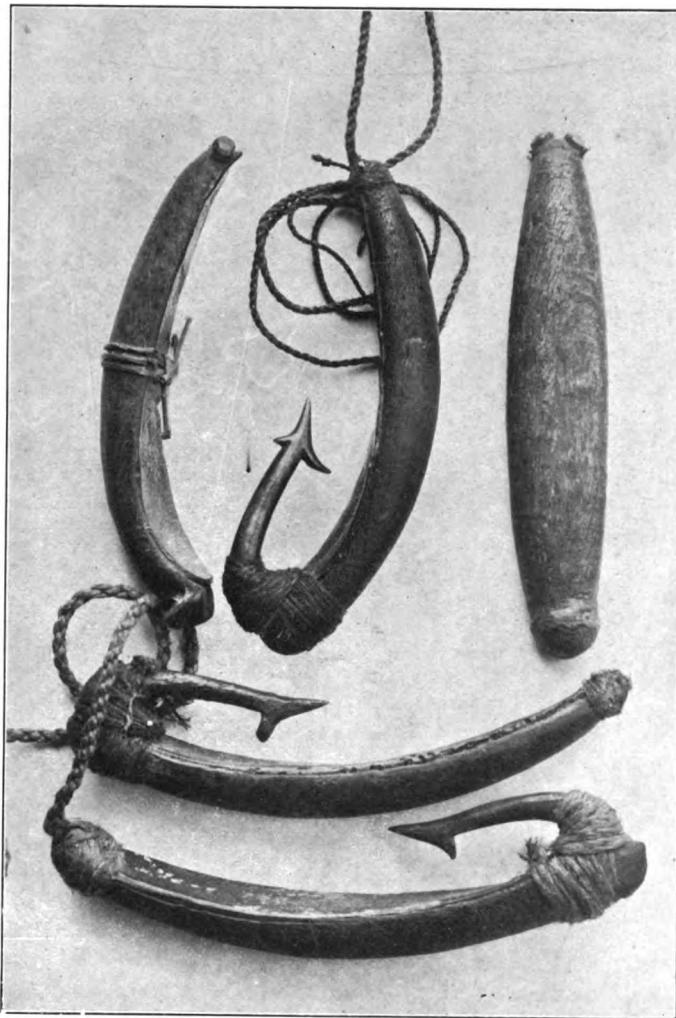


Fig. 20.—*Paua*-shell hooks for *kahawai*.

After the ceremony, word is sent to the people on the East Coast and northwards that Motu is open for fishing. This is early in December, and lasts for two or three months. He goes on to say that the shoals of fish are of great size, and thickly packed. The men and women stand on both sides of the tidal portion of the river, so that all the space is taken up. The river is here about 100 ft. wide. The fish caught during the day are cooked in huge ovens, over 200 ft. in length and about 4 ft. wide. About twenty or thirty thousand fish, he says, are cooked in an oven. He also gives a tale of the loss of Tapakakahu's *paua*-shell fish-hook, through the *kahawai*, which is remarkable, inasmuch as he talks of a *paua pounamu* (a greenstone *paua*-hook), an heirloom from his ancestors, which he must

have valued highly, as he gave the finder his dog-skin cloak. Possibly this may mean a *paua*-shell mainly of a greenstone shade of colour.

The hooks shown in Fig. 21 are most interesting, and we really know very little about them. Some years ago Mr. T. F. Cheeseman, F.L.S., the Curator of the Auckland Museum, showed me a number of pieces that had been brought down from some old middens in the extreme north of the Auckland District. I have since obtained the specimens figured from the same district. They are extremely small, and most delicately made. The uppermost pair on the left form a complete hook when lashed together at the bottom, and there are two other of these composites near the bottom. To the left of the centre line is a piece of the large whorl of *paua*-shell pierced, and by it two other pieces, one being partly finished, and the third a finished specimen. The three largest pieces are worked fragments of *Haliotis* (*paua*); notice the notching on the lowest one, the upper and lower forming parts of hooks. The third piece of *paua* is a most interesting specimen of a fish-gorge.

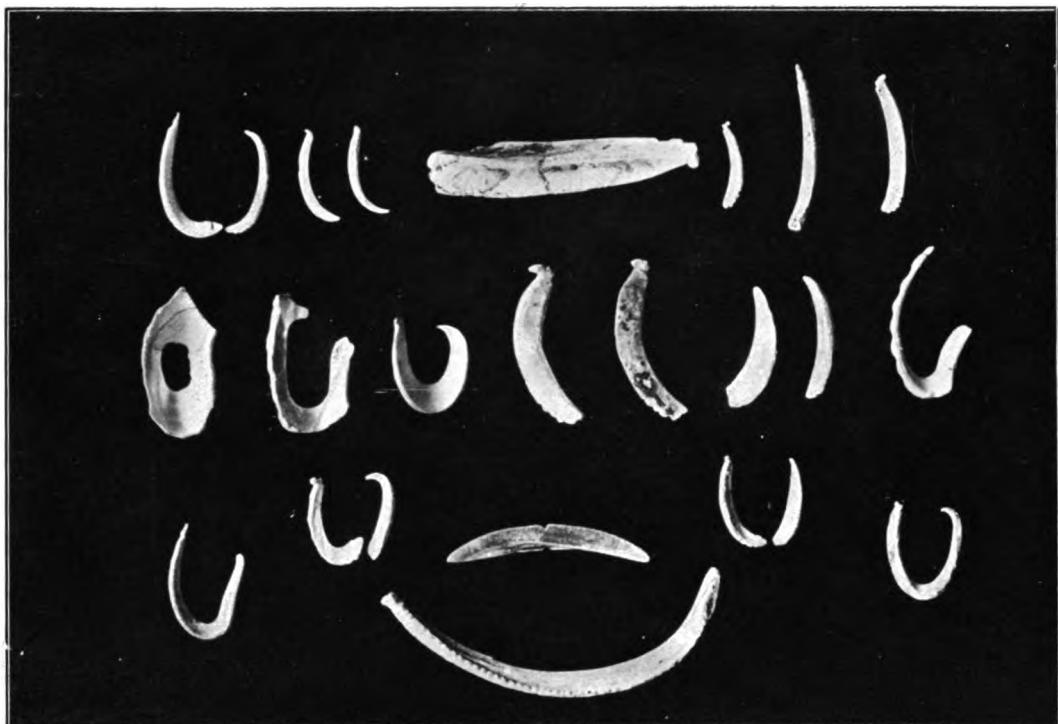


Fig. 21.—Composite fish-hooks made from shells.

This is one of the oldest forms of fish- and bird-catching implements. It is found in the remains of lake-dwellers of Europe. The Chuma Indians, of California—a tribe now extinct—who inhabited Santa Rosa Island, made similar hooks from the shell of the large *Haliotis* found in that part.\*

The class of hook shown in Fig. 22 is now rare in New Zealand, but is more frequently seen in old collections and museums in other countries. It is a modification of the twisting and spoon-bait type, having, instead of the wooden or bone back faced with the glittering *paua*-shell, a piece of bone—*moa*-bone—in these hooks, and a barb of human bone in the one case, and sperm-whale tooth in the other, both being beautifully carved and finished. At the upper end of the back piece are two knobs or projections, so shaped that they give the hook a jumping motion when drawn through the water, as in the case of the stone *whatu* previously mentioned. These knobs are not for attaching the line to the hook, as the line passes through a hole drilled in the bone. In front of the back piece a cord passes down the line to the base of the barb, but I have not yet found out the reason for this. These old and interesting specimens, which I have examined many times in years gone by, are now in England. The photograph shows the character of the fishing-lines made in the old days by the Natives.

\* Smithsonian Report, 1877, p. 318.

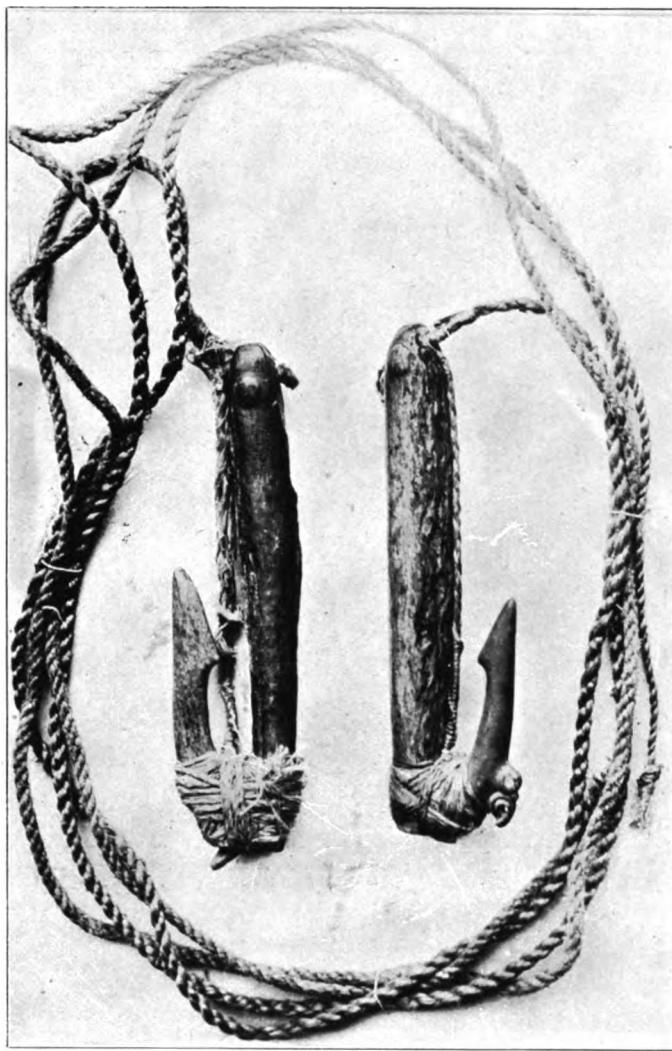


Fig. 22.—Composite fish-hooks of *moa* and human bone.

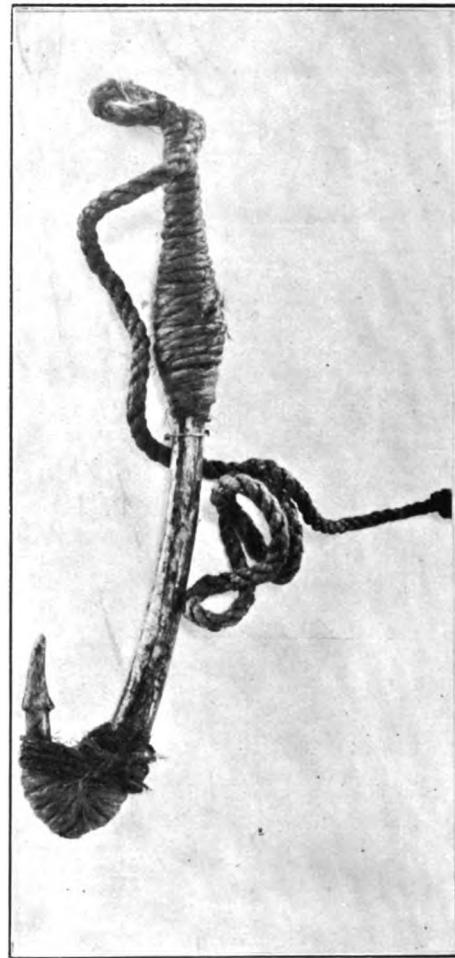


Fig. 23.—Composite bone fish-hook.

Fig. 23 is another photograph of the hook in the Canterbury Museum included in Fig. 17.

In Fig. 24 we have another type of hook common throughout the Pacific, composed of a piece of wood 5 in. or 6 in. long, with a hole at the end, into which is fastened, by either plugs or lashings, a barb of bone or stone. This kind is also used as a trolling-bait, and is very effective, as it jumps like a flying fish, in consequence of the way in which the line is attached to a groove and a deep notch at the other end. Numbers of barbs are found in the southern middens of this type, and sometimes they have a hole through which a small peg was passed, which prevented the barb from coming out. There is a specimen in the Canterbury Museum which has still part of a broken barb in it. It was found in the Moa-bone Point Cave, at Sumner. There is also a specimen in the same collection from Monk's Cave, at Sumner. By the side of this hook is a hook of which the back is made from

a piece of whale's bone. It came from the Taranaki District, and is now in my collection in the Dominion Museum. It has a bait-string.

Fig. 25 represents a kind of composite fish-hook, peculiar, so far as I know, to the Taranaki District, and probably adapted to some particular kind of fish. They appear to be radically weak in construction. In the centre is a small hook from the same district, made from a bent root. It has a hole for the line to be attached to it, and grooves to receive the line on each side. Presumably a lashing went outside to keep the line in its place. These specimens are in the Dominion Museum.

Fig. 26 is taken from the magnificent collection in the Auckland Museum, and includes nearly every known type of hook, including several specimens of the elaborately carved hooks used for catching albatross. A number of these specimens were formerly in the collection of Captain Gilbert Mair. Many years ago

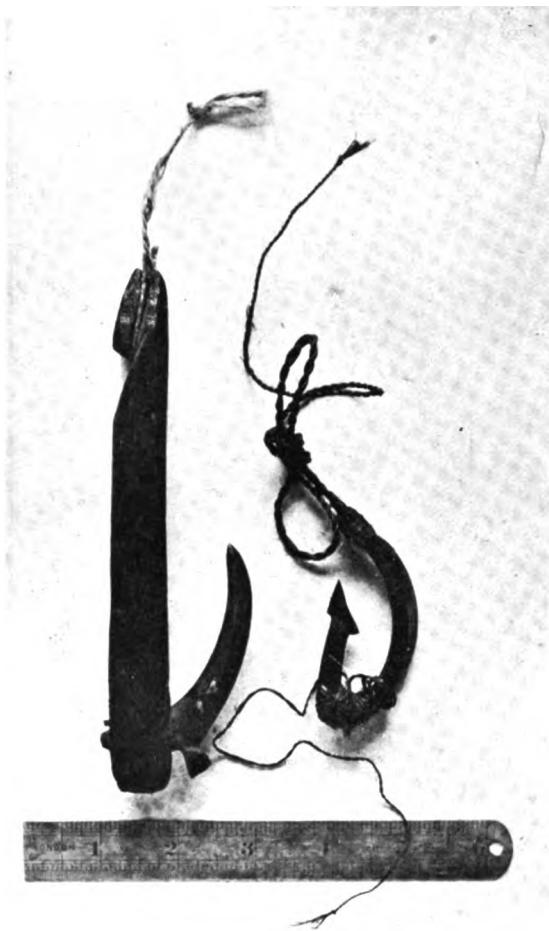


Fig. 24.—Fish-hooks from west coast, North Island.

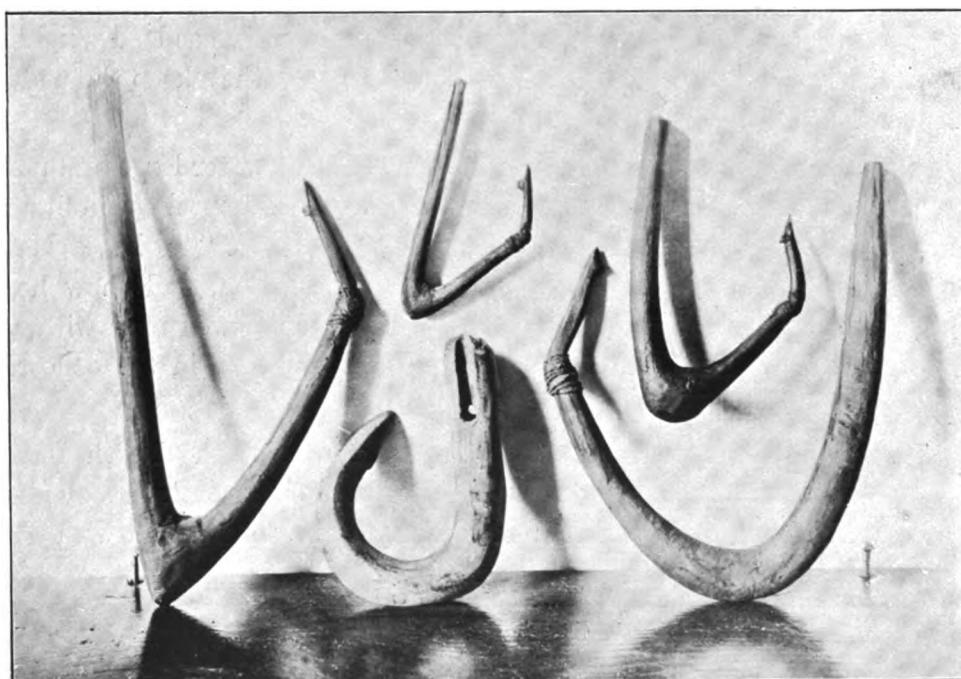


Fig. 25.—Fish-hooks from Taranaki.

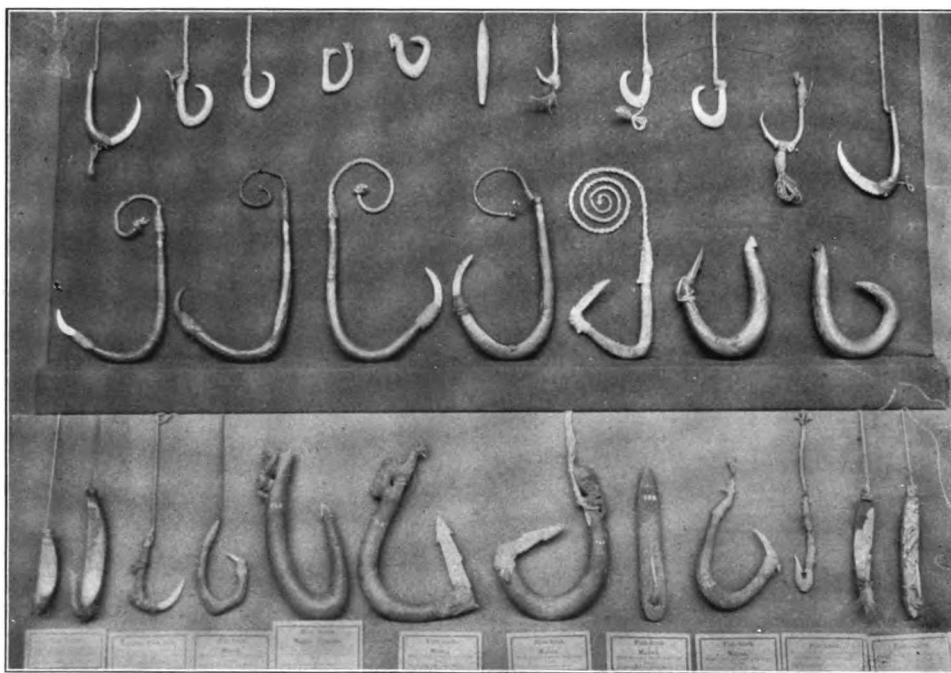


Fig. 26.—Collection of fish-hooks, Auckland Museum.

a huge hollow tree, near the mouth of the Wairarapa Lake, blew down in a gale and burst asunder, disclosing the fact that it had been fitted inside as a storehouse for fish-hooks of all kinds, and of great age. Most of these came into Captain Mair's possession, but a large number of them were soon afterwards destroyed by a fire.

In villages or *kaingas* near the sea Crozet found well-built storehouses, and he says, "The third storehouse contains the rope, fishing-lines, the flax for making rope, thread, and rushes for making string, an immense quantity of fish-hooks of every size from the smallest to the largest, stones cut to serve as lead weights, and pieces of wood cut to serve as floats. In this warehouse they keep the paddles of their war-canoes; it is there that they make their nets."\*

For large fish such as are found about the reefs in deep water large and powerful hooks were required, and in Fig. 27 are shown two very old specimens obtained in the Wanganui district by the author of the well-known book "Te Ika a Maui"—the late Rev. Basil Taylor. They are in excellent condition, and show how the main cord, which was either round or square plaited, was sewed over with a finer cord for some distance from the hook. These hooks are now in the collection of H. S. J. Harper, Esq., at Wanganui.

Fig. 28 represents a type common on the other side of the North Island, in the East Cape and Poverty Bay district. They have wooden backs, grooved at the base to receive the bone barb, which is then firmly lashed in position with fine flax cord. These specimens are in the Dominion Museum, Wellington.

\* "Crozet's Voyage," Ling Roth ed., p. 34.



Fig. 27.—Large composite fish-hook from Wanganui.



Fig. 28.—Composite fish-hooks from East Coast.

stead of a piece of bone. The third specimen is the wooden back, showing the shape of the wooden part of hooks such as those in Fig. 28. These hooks were made from the tough wood of the *tauwhinau* (*Pomaderris*), and in the north from *mangemange* (*Lygodium volubile*), hardening them by means of fire. For *hapuka*-hooks they generally used a shrub called *kaikaiatua* (*Rhabdothamnus solandri*).

In the Auckland collection there are several fine examples of albatross-hooks, and here (Fig. 31) is a specimen, most delicately carved, and with a wonderfully worked bone barb, with fine projections like pin-heads. The line is not properly fastened to the shank, and there is no bait-string to the one; but in all the others that I have seen the bait-string is very long. I have been unable to get any

This double fish-hook (Fig. 29) is in the "Sir George Grey" collection, in the Auckland Free Library, and may possibly represent an ancient form, but I have seen no other specimen, and from the workmanship it appears to me to be comparatively modern, and made more for show than use.

The three fish-hooks shown in Fig. 30 are from the collection in the Canterbury Museum. The large one is a good example of a groper or shark hook, and, as the line has disappeared, the shape of that part of the back is shown. This is singular in having the barb of hard wood. It was found in the Moa-bone Point Cave at Sumner, near Christchurch. The smaller hook with a barb has a piece of the edge of a *paua*-shell sharpened to a point in-

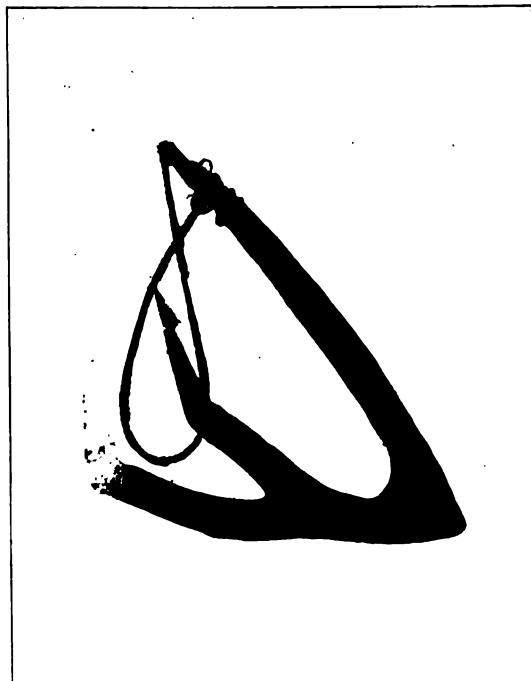


Fig. 29.—Double fish-hook.



Fig. 30.—Composite fish-hooks.

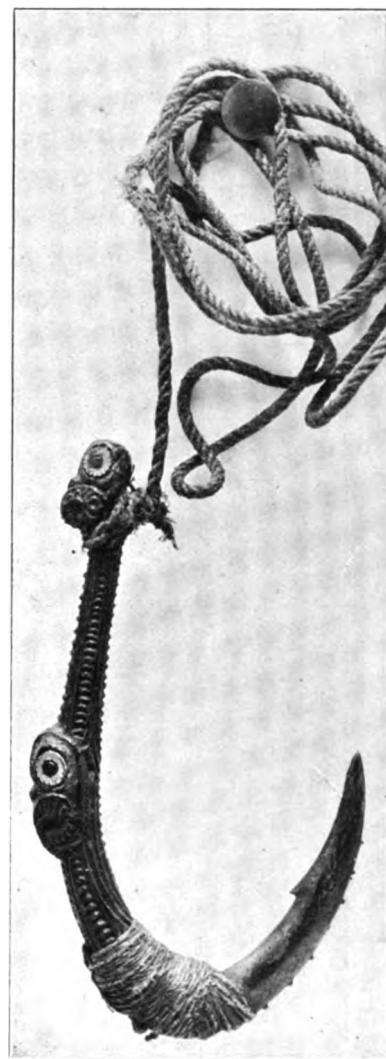


Fig. 31.—Hook for catching albatross.

information from the Natives as to how they were used. The specimen is in my own collection in the Dominion Museum, and came from the neighbourhood of the East Cape, and all other specimens seem to have come from that district.

So far we have figured hooks either entirely made from bone or made from two or more materials, and which are still in existence in either public or private collections. As I have mentioned in another place, a great number of the bone bars belonging to fish-hooks whose wooden parts have decayed have been found in the middens along the coast of Otago and Southland by His Honour Judge Chapman, by myself and my son, and by other collectors. To give some idea of the diversity of form, from the rudest piece of pointed bone to the most finished production, I now give photographs of specimens which can all of them be referred to types already figured. Fig. 32 gives eleven of these, all found at Long Beach, Purakanui, or Warrington. The one on the right is remarkable for having a small hole bored

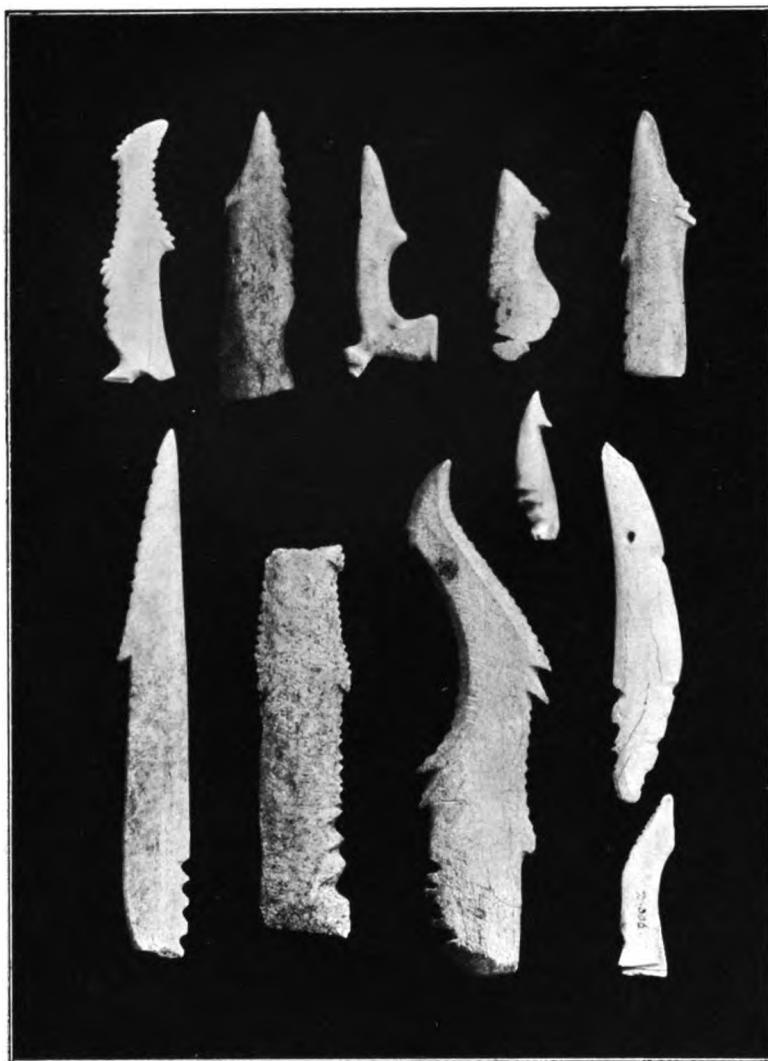


Fig. 32.—Bone barbs for fish-hooks.

*moa*-bones. The three dark curved ones near the centre have an interesting history. Some years ago I was crossing a sandy neck of land at Stewart Island known as The Neck, and high up in the sandy cliff on one side I saw some human bones sticking out. Further investigation disclosed a complete skeleton, buried in a sitting posture, with its head on one side, resting on the right hand, the arm being close to the side, and the other arm crossed between the thighs and chest. On lifting the head, these three bone barbs and a small greenstone were seen: they had evidently been in the palm of the hand.

Fig. 35 is composed of a variety of bone barbs. In the specimen to the left the base has been exposed in the sand for a longer time than the top piece, and is more bleached. I have often found fragments, and months and even years afterwards found the missing pieces.

through the upper part of the barb for a bait-string, and is unique and, I think, a chance idea. The small well-finished barb near it is made from whale-tooth ivory. These are now in my collection in the Dominion Museum.

Fig. 33 gives a few specimens from Judge Chapman's collection from the same localities as those given in the preceding paragraph.

Fig. 34 has several interesting specimens, the straight sharp spike barb type not being represented in any other collection; nor are there any complete hooks of this kind known. The large one in the centre was dug up at the mouth of the Shag River, in the old middens full of

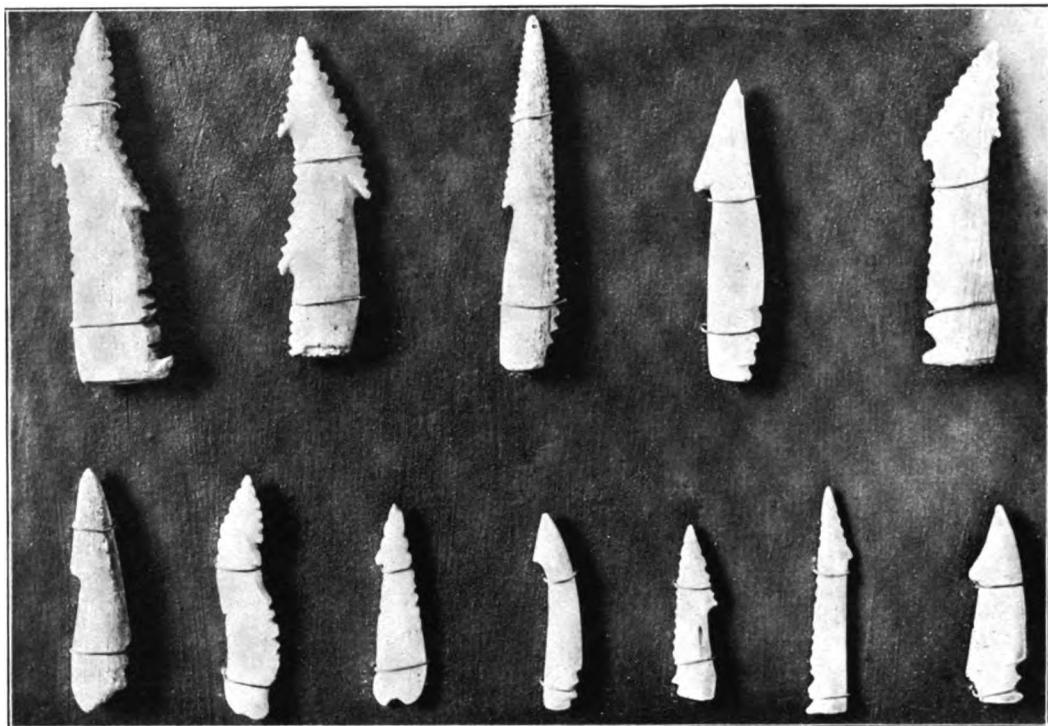


Fig. 33.—Bone barbs for fish-hooks.

Fig. 36 is entirely composed of bone barbs for *barracouta*-hooks, the base being passed through the wooden base, and fixed in position by a small peg. The upper left-hand corner shows an unusual form that has apparently been lashed on. Barbs of this kind were frequently seen in the old days hung in the ear as ornaments.

Figs. 37 and 38 represent the small and delicate barbs, the smaller ones usually being made from a piece of the wing-bone of an albatross. These are sometimes found in considerable numbers. I have found as many as forty more or less perfect specimens in one small area, probably where a *kete* full of hooks has decayed, leaving only the bone portion of the hook, the flax lashings and the wooden parts soon decaying. Nearly all the collections in the South Island have large numbers of these interesting relics. Hundreds, perhaps thousands, have been found in the site of old *kaingas* between the mouth of the Shag River and the Bluff. The specimens figured are in my collection, now deposited in the Dominion Museum, Wellington.

Fig. 39 shows a very interesting fishing implement, and one which for some time I took to be a picker for extracting shell-fish from the shell, or a pin for use in mat-weaving; but having found some broken in half, and some only cracked or partly broken, it then became evident that these double-pointed pieces of bird-bone (albatross) were "gorges"—one of the most primitive and elementary of all fish-catching apparatus. In nearly all the lake-dwellings in European lakes, and in prehistoric deposits in all parts of the world, these gorges have been found, and are in

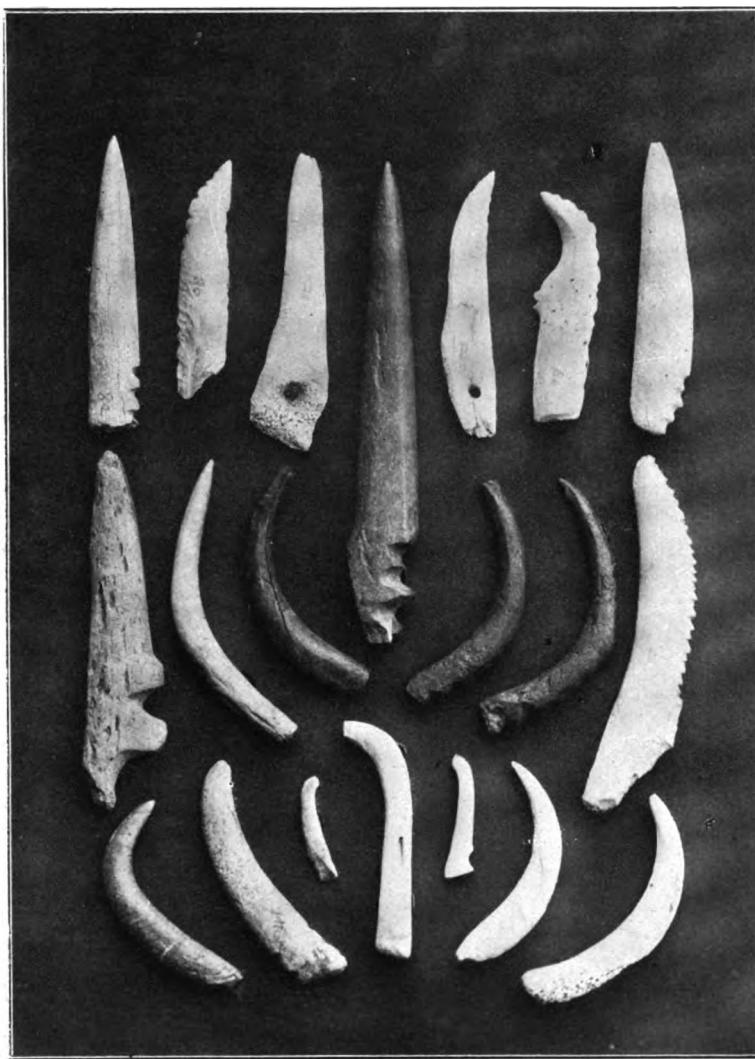


Fig. 34.—Bone barbs for fish-hooks.

bobbing eels, and that is the stringing of worms on to a thin strip of flax or the mid-rib of a part of the leaf of the *nikau* palm. There is a story that when Maui and his brother went fishing after this manner, the brother did not tie any knots at the end of his threads, and consequently caught no eels, as the worms were drawn off; but Maui tied his bunch of worms into a ball, and when the eels bit at the worms they were jerked out on to the bank or into the canoe. This seems a variant of a similar story given at some length by Sir George Grey† of the fishing excursion of Maui and his brother Irawaru, when trouble arose because Irawaru was successful and Maui unsuccessful, and when Maui found that it was the barb on the hook used by Irawaru that made the difference he took a mean revenge, and by mighty spells and incantations changed Irawaru into a dog.‡

\* Brough Smyth, vol. 1, p. 388. (See also description of a New Zealand *kahawai*-hook, p. 392.)

† Poly. Myth., 1885, p. 50.

‡ See also "Te Ika a Maui," 1st ed., p. 25.

use at the present day in parts of Melanesia and New Guinea. Wooden gorges of this kind were also used by several Australian tribes.\* They are wrapped round with the bait, and so fastened parallel to the line that they are swallowed by the fish, and when any strain comes on the line the upper end sticks in the throat or mouth, and it is almost impossible to withdraw it. The line is made fast to the middle, and prevented from slipping by notches. I am unable to find out the name by which the implement was known to the Maori. It would, I imagine, be useful for any fish that swallow the bait freely.

There is only one simpler method of fishing or

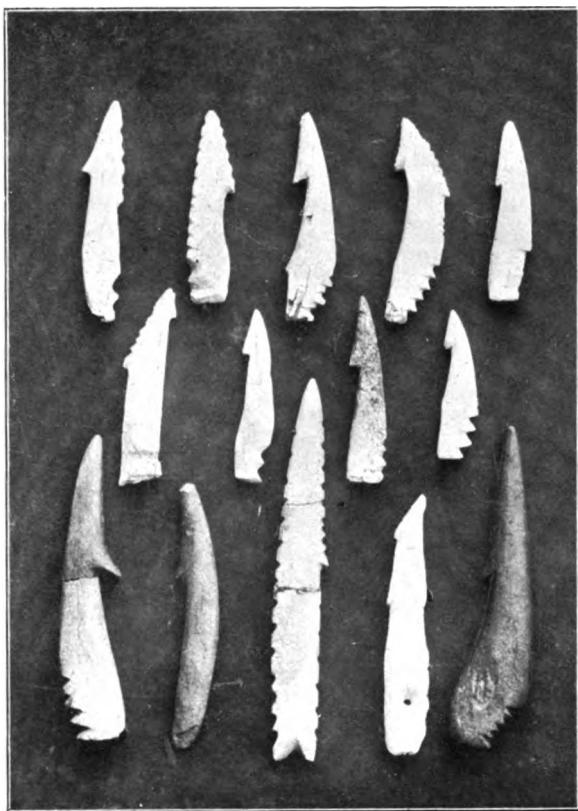


Fig. 35.—Bone barbs for fish-hooks.

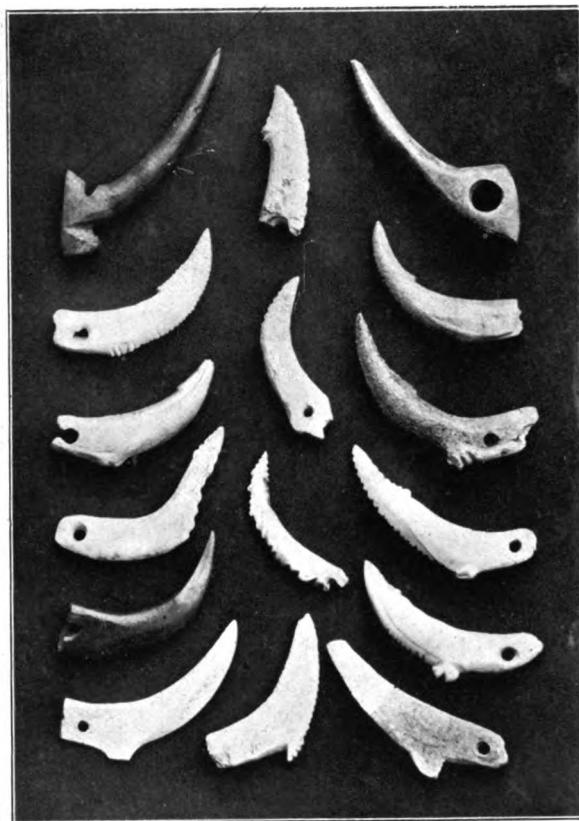
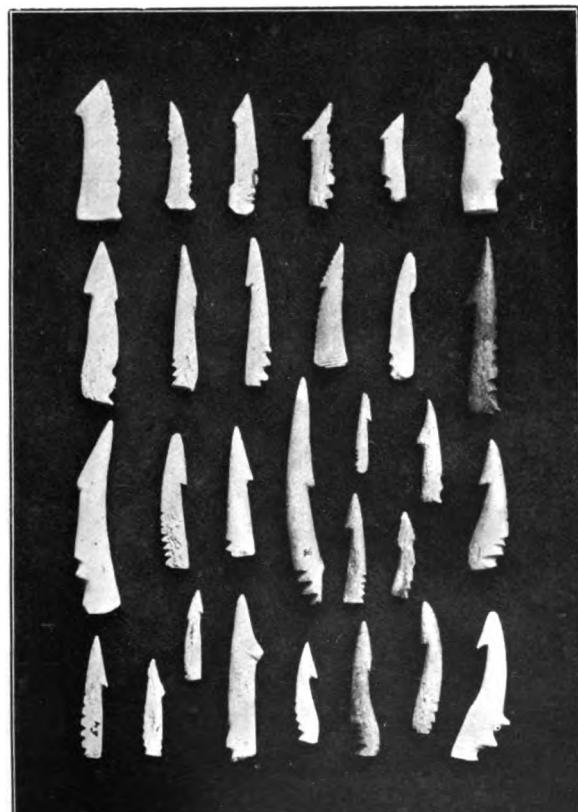
Fig. 36.—Bone barbs for *barracouta*-hooks.

Fig. 37.—Bone barbs for fish-hooks.

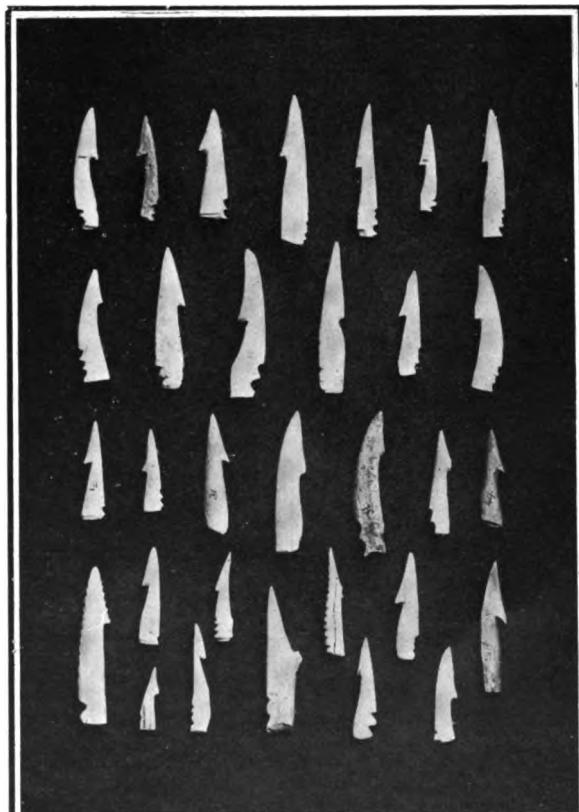
Fig. 38.—Bone barbs for fish-hooks. Digitized by Google



Fig. 39.—Fish-gorges.

shark, or for the large groper caught in deep water off rocky shoals, or at some seasons from the beach just outside the line of breakers.

In Fig. 41 are shown a number of small barbless iron hooks, as used by the East Coast Natives, each provided with bait-string. The largest one I picked up in a village in Tolaga Bay some years ago. In recent years I have seen the Natives fishing for *hapuka* with a large horse-shoe sharpened at one extremity, and the line fastened to the other. All the specimens are carefully made, and after old patterns, such as the small bone hooks in Fig. 14. These specimens are in my collection, deposited in the Dominion Museum, Wellington.

Fig. 42 is another iron hook from the Taranaki coast, made from a round piece

We have now reviewed the majority of forms of fish-hooks used in Maoridom before the advent of the foreigner. Directly the explorer and whaler came to these shores the Natives became acquainted with the use of metals, and the old forms were reproduced in the copper bolt or piece of iron obtained from the visitors. Such a treasure as an unbreakable fish-hook was worth a great deal in those days, and only second to an iron axe. In order to show how they were made, a large hook from the Taranaki coast is shown in Fig. 40. It has several barbs (*niwha*) and notches for the bait-string. Such a hook would be used for

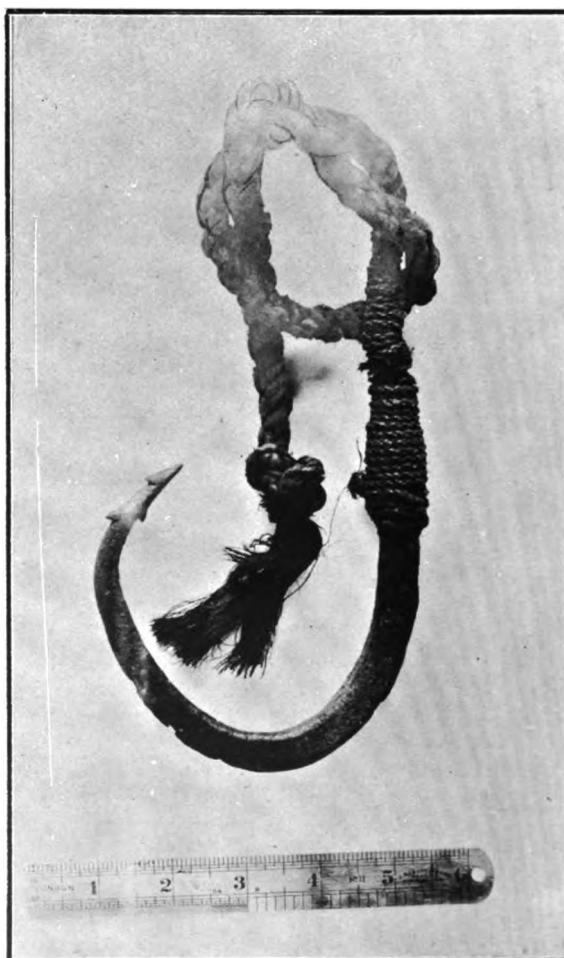


Fig. 40.—Iron fish-hook for large fish.

of iron without notches for bait-string, but the manner in which the square plaited line is fastened to the shank of the hook is well worth examination.

Fig. 42A shows two large hooks from Poverty Bay, on the east side of the North Island, made from copper. They are well shaped and well finished, and strongly attached to strong flax cords, the part attached to the hook being wrapped round (*whakamia*) with finer cord (*whewheta*).

Fig. 43 is a collection of copper and iron hooks, with *ketes* for hooks and lines, from the Taranaki coast, which are at present in the Dominion Museum.

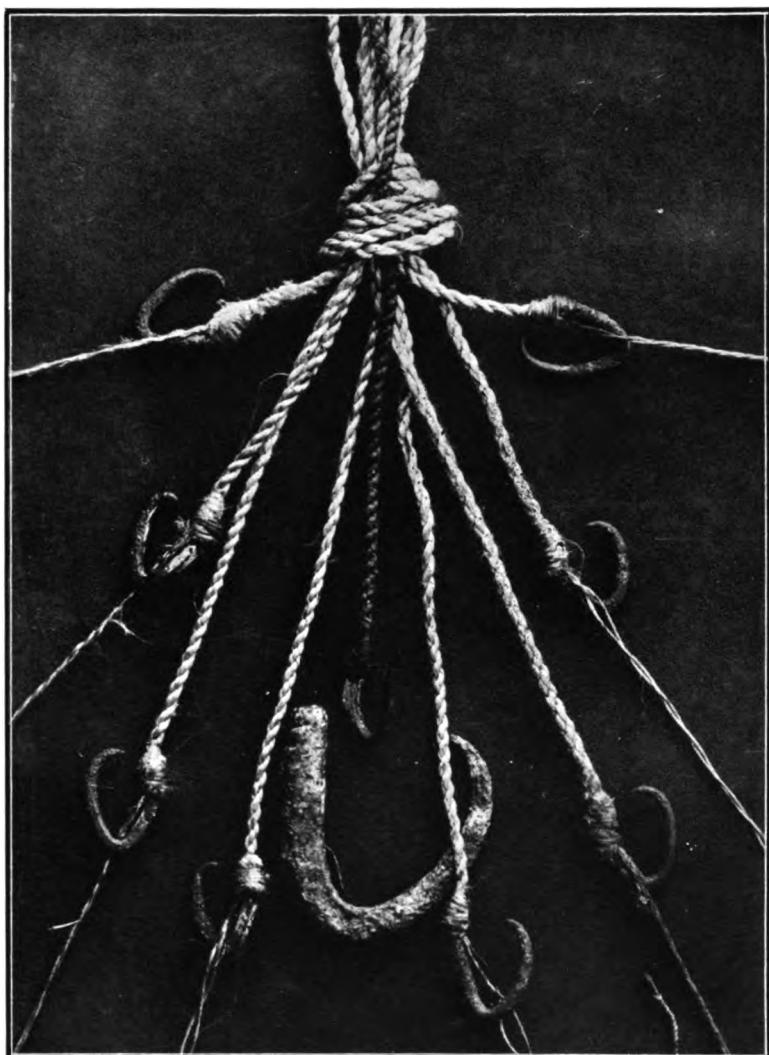


Fig. 41.—Iron fish-hooks.

Fig. 44 has four small wooden floats (*poito*) for nets when set for fish. These floats are made of very light wood—generally from the wood of the *whau* (*Entelea arborescens*), if procurable. In the North Island lumps of pumice were often used. In the centre are two flax spreaders, which were attached—generally to the number of three. The method of manufacture is visible in the photograph.

Sometimes these spreaders were made of bone or a suitable piece of wood. In Fig. 45 is shown a spreader (*pekapeka*), from Poverty Bay, made from a small rib of a whale, and to it are attached three old hooks. These are simply placed there to show where they would be attached; the attachment as made is probably quite incorrect. I think that probably there would be only two hooks, and a stone sinker hung from the centre.

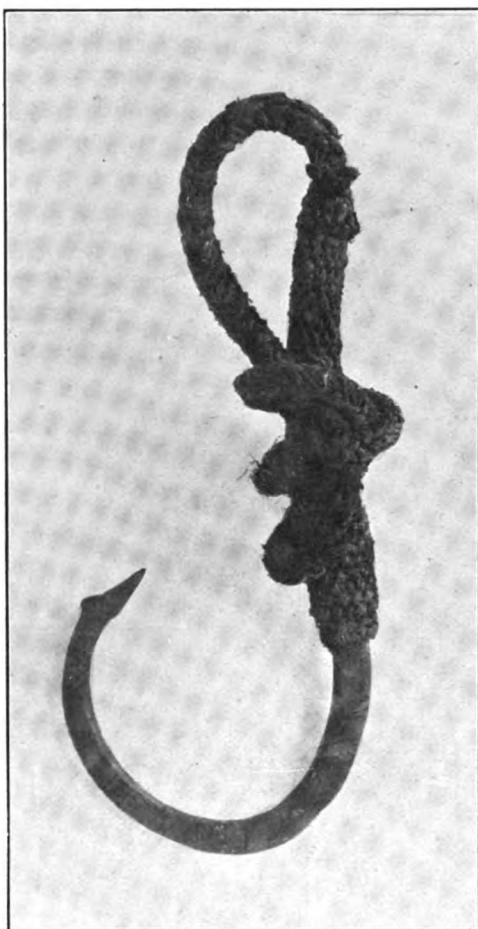


Fig. 42.—Iron fish-hook.

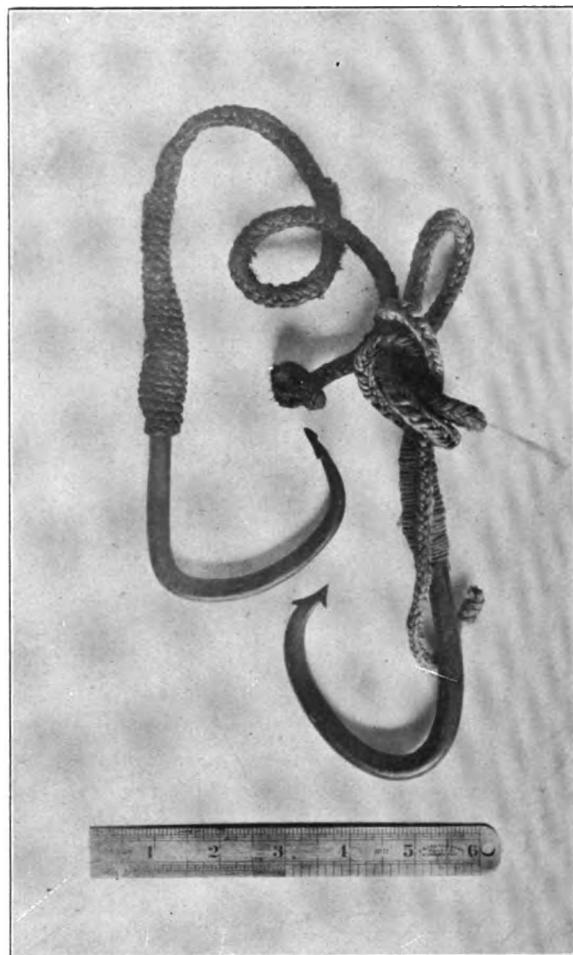
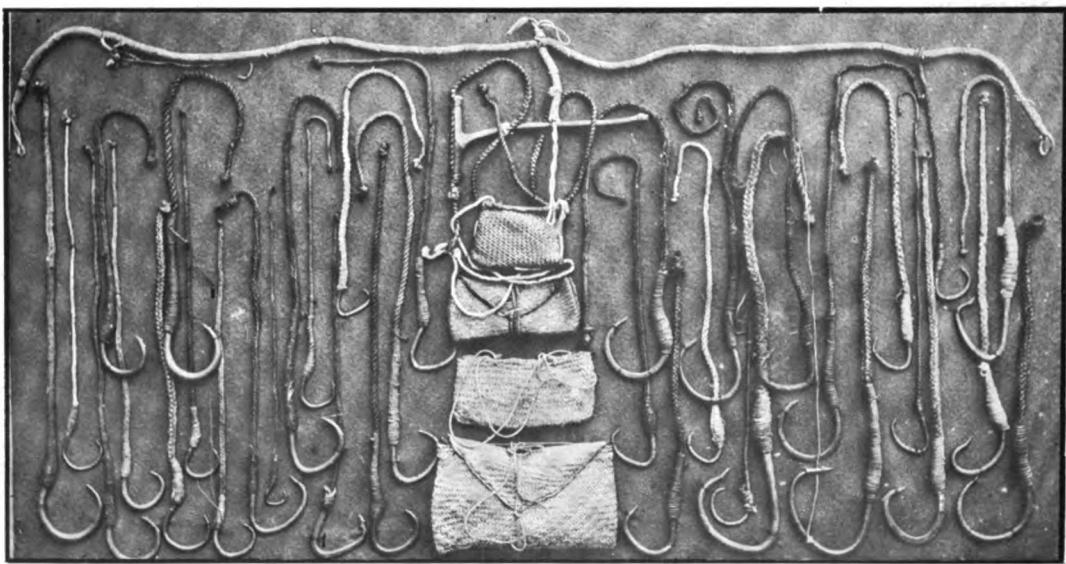


Fig. 42A.—Copper fish-hooks.

Fig. 43.—Copper and iron hooks, with *ketes* for hooks and lines.

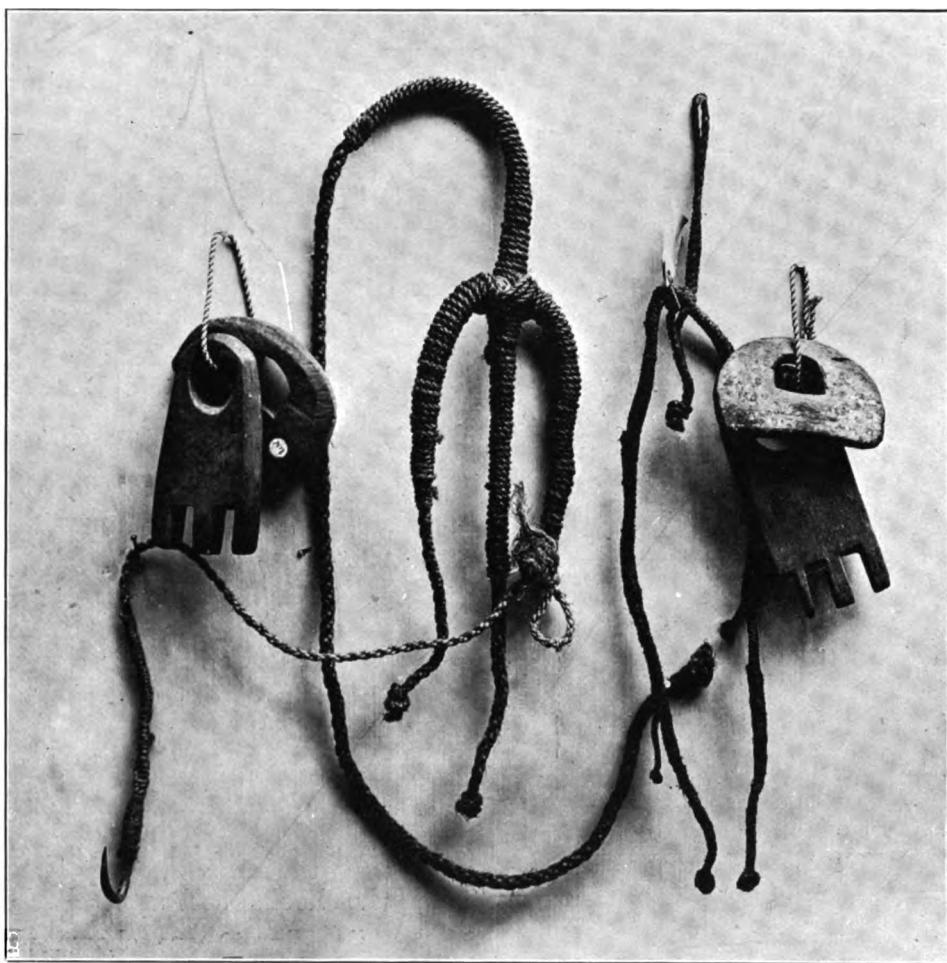


Fig. 44.—Wooden net-floats and flax spreaders.

Fig. 46 shows a well-carved spreader (*pekaapeka*), made from a carefully selected piece of wood, and neatly fitted with lashings and loops for the attachment of the sinker to the middle (*taumahe*) and the two hooks.

A curious appendage to a short fishing-rod, such as would be used from a canoe, is figured in Fig. 47. It is about 7 in. in length, and is lashed to the top of the rod. The rod is then fixed with others to the side of the canoe, and the line passed through the upper part of the carving, being previously fastened securely to the canoe-thwart. At the lower part of the carving a number of valves of one of the common pipis are suspended by strings. When a fish takes the baited hook, the movement causes the shells to rattle, and calls the attention of the fisherman to the one of his lines that requires attention. I am indebted to Mr. F. J. Williams for a photograph of this curious specimen, which is peculiar, so far as I know, to the Poverty Bay district. It is called a *tautara*.

I have seen rough pieces, with several short branches, used as spreaders in several places in the North Island, such as may be seen on the right-hand figure of

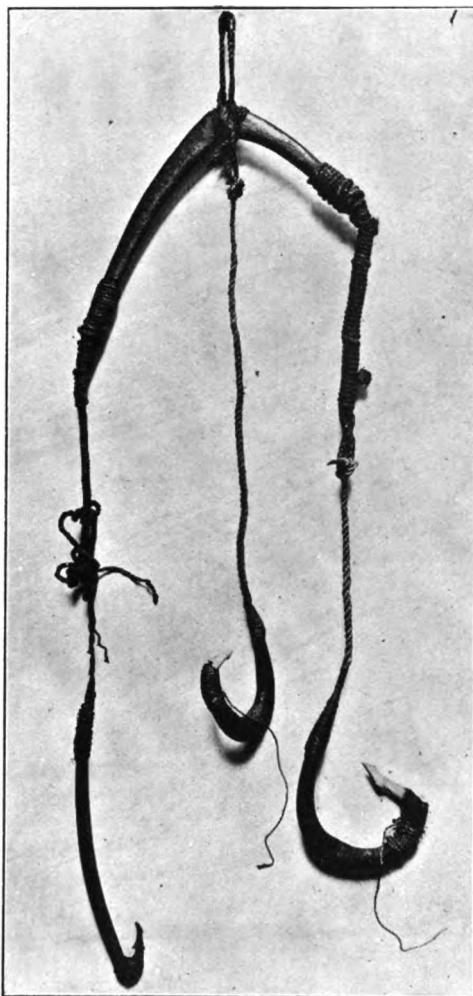


Fig. 45.—Bone spreader and hooks.

them up, and are sometimes made from carefully prepared strips of the cabbage-tree, or *ti*.

Fig. 48. To the specimens in this figure, which are from near the East Cape, I have attached two remarkable stone sinkers. The one on the right is made from arragonite (*tutae karoro*), and is probably rudely anthropomorphic. The other sinker is an unusual shape, and remarkably well made. I am not sure of the locality from which this was obtained, but I think it has come from the northern part of the Auckland District.

On the Taranaki coast and down to Wanganui there were a number of well-known fishing-grounds to which the Natives resorted, the exact positions of which were known by the bearing of marks on the hills or coast-line. When setting out, each fisherman would put into the canoe his bait and his hooks, carefully wrapped up in a neat *kete* made specially for that purpose, and having loops and a long fine cord affixed to the edges, so that it might be tied tightly, and keep the hooks and spare barbs from being lost. In Fig. 49 are shown three of these small *ketes*, two being of rather finer work than the other. They differ from all other *ketes* in having the long line for fastening

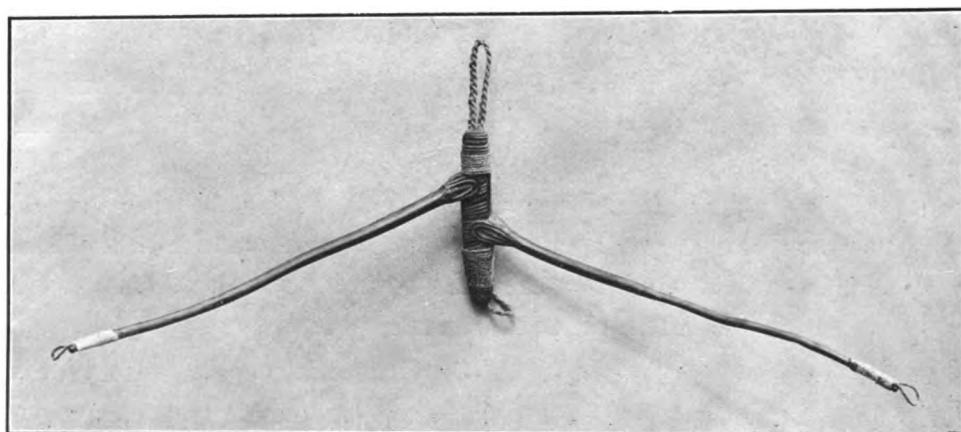


Fig. 46.—Carved wooden spreader.

## SINKERS.

For sea-fishing it was essential that the baited hooks should be carefully weighted, so that they might reach the feeding-grounds of the fish; and hence are found all along the coast-line numbers of sinkers that have been used for either fishing-lines or nets. The material was generally some suitable piece of the rock forming the coast-line; and when a piece already rounded by the action of the waves was secured, a groove was chipped out sufficiently deep to hold a cord in place. The groove was "picked" out by means of hard sharp stone, and very seldom ground or rubbed. In Fig. 50 a representation is given of part of a collection made by the Rev. T. G. Hammond in the neighbourhood of Patea, and a little to the north of Wanganui. The majority are naturally shaped stones, with grooves chipped either in the direction of the long or short axis; some—probably for nets—are flatter, and have either two or four notches, to retain the rope in position. Did we not know that they were only used as sinkers we could well imagine that some were for use as hammers, with a supplejack or pliable stick twisted round, in the manner of the American Indians or Australians. They range from small specimens weighing only a few ounces to specimens weighing as much as three pounds. There is such a great variety in form that it is impossible to give more than a general idea of the different groups into which they may be arranged.

Taking the plain grooved or notched natural stone as the lower end of the scale, we must place at the other end the highly carved specimens which are found in collections usually from the East Cape district. Fig. 51 contains three specimens, each in two positions. They are all made from a hard clay stone. The uppermost is a famous relic, now in the Auckland Museum, and formerly in the collection of Captain G. Mair. It is described in the Catalogue of the Dunedin Exhibition of 1889-90 as "A stone *kumara* god—Marutuahu—brought in the Mataatua canoe to New Zealand twenty-two generations ago." It is quite possible that it may have been used



Fig. 47.—Figure carved on a fishing-rod.

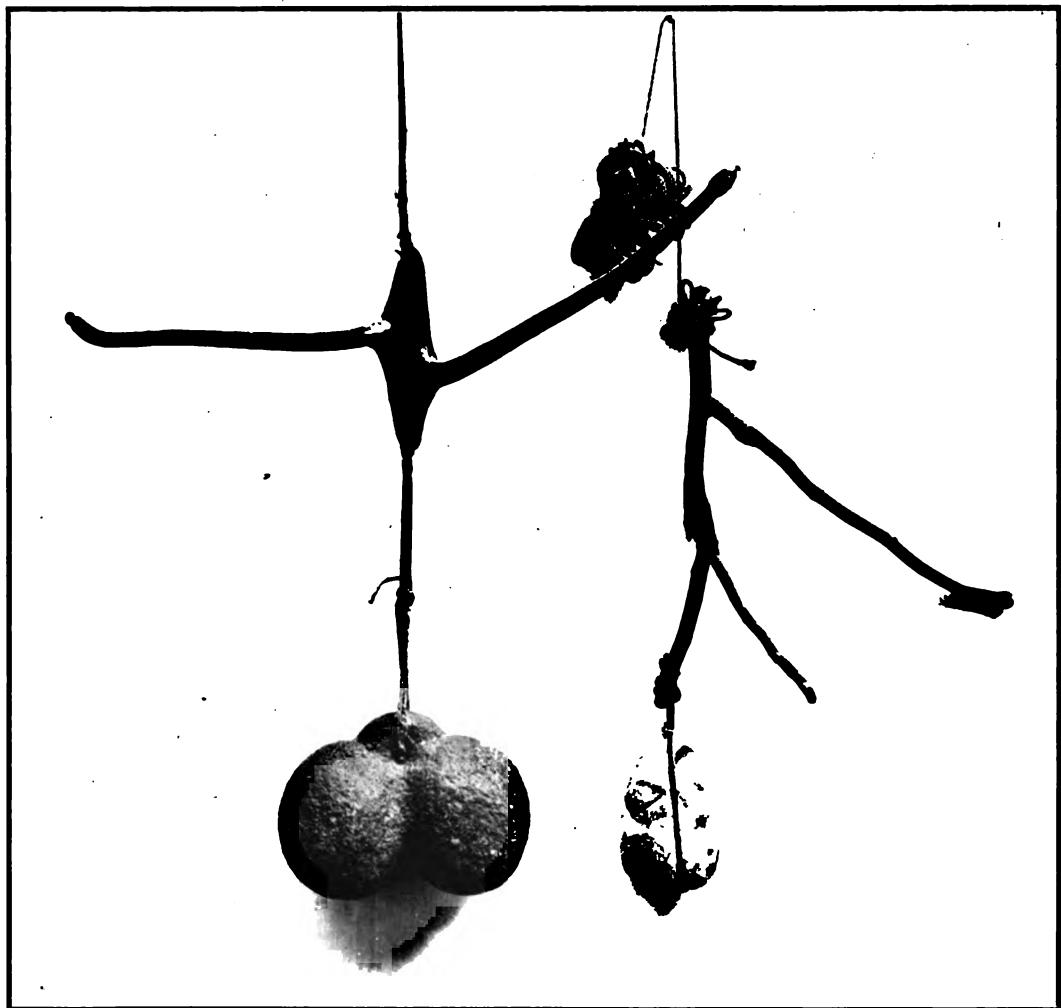


Fig. 48.—Two spreaders and stone sinkers.

as a *kumara* god by the people to whom it belonged, but it is evidently exactly the same type as the other two sinkers figured, which were obtained near the East Cape, one being actually in use. The carving on the one formerly belonging to Captain Mair is done with great skill and regularity. The two from the East Cape are in my collection in the Dominion Museum.

It is possible that all these highly finished and ornamented sinkers were *manea*, or mediums for the spells recited by the fisher to bring the fish to his hooks. Fig. 52 shows a type of sinker confined almost entirely to the northern parts of Auckland, called a *mahe*, or *maihea*. The small specimen on the next figure (Fig. 53) is worked from a piece of arragonite, and came from the East Cape district. In addition to a hole at the top, it has a groove for the line to pass round it, and is ornamented with deeply cut channels in a regular pattern.

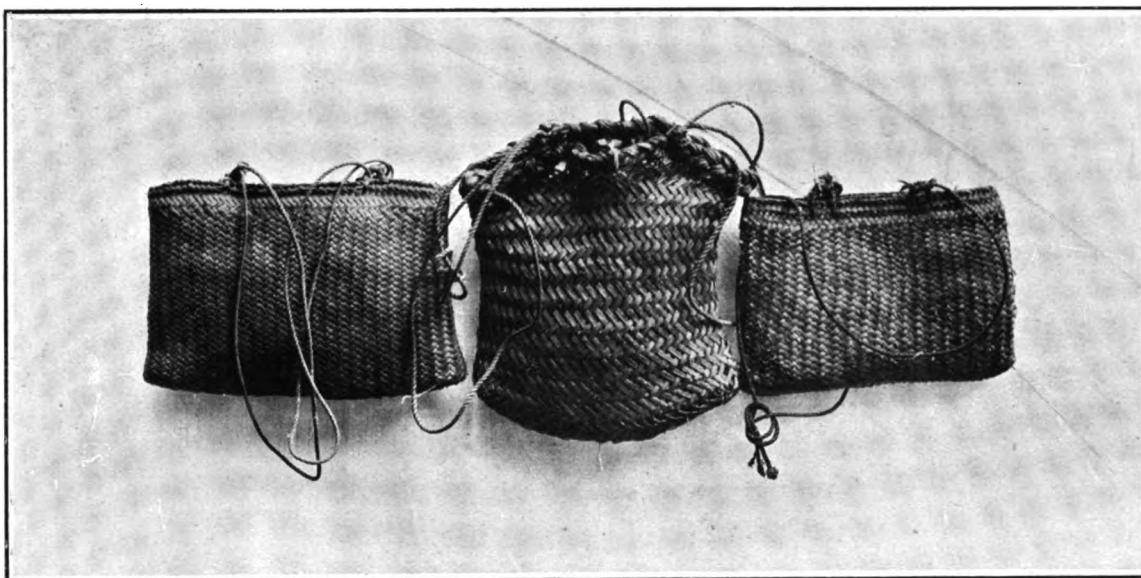
Fig. 49.—Small *kete* for fish-hooks and lines.

Fig. 54 shows a few small stone sinkers in my collection from Poverty Bay, with the original cords attached to them. The one in the centre is probably an imitation of an old-fashioned ship's block.

As I have said, a great number of interesting forms are in the Museum collection, but cannot be given here. As a final example, I will give an illustration (Fig. 55) of how a modern Native avoids the work entailed in chipping a groove in the stone. This line, with wooden spreader (*pekaapeka*) and sinker, was in use at a fishing-village a little south of Gisborne, in Poverty Bay. I may here mention that I have seen

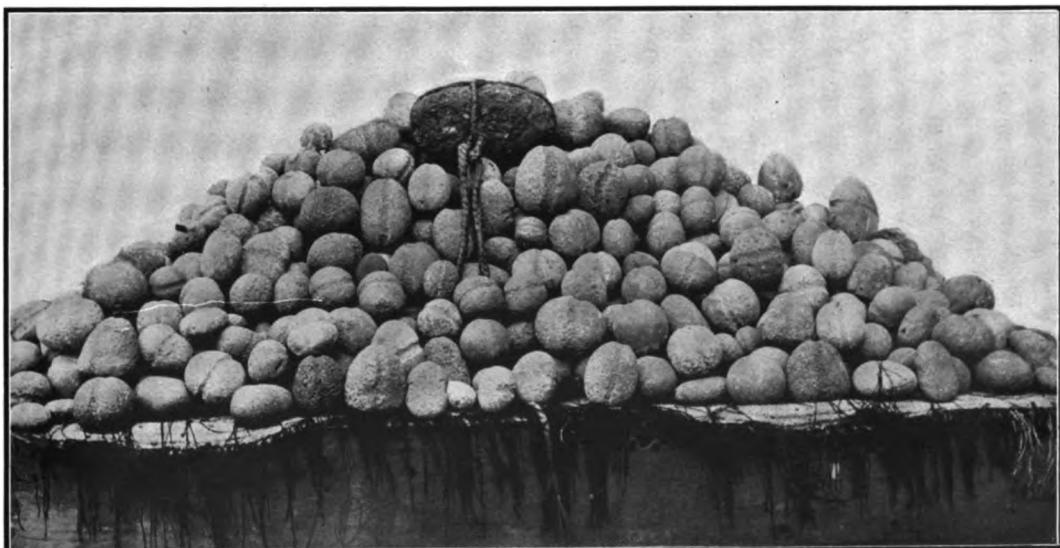


Fig. 50.—Group of stone sinkers.

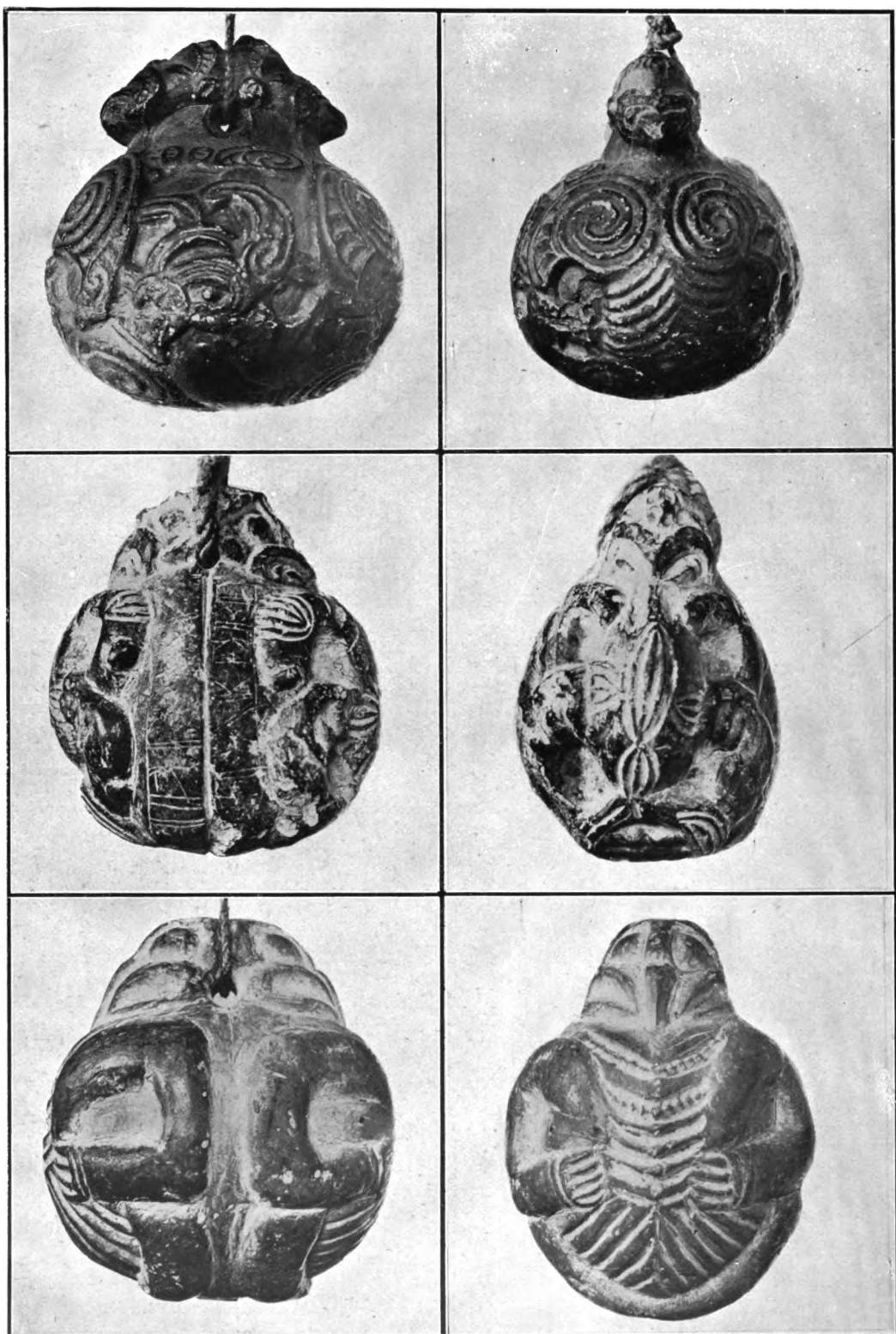


Fig. 51. - Carved stone sinkers.

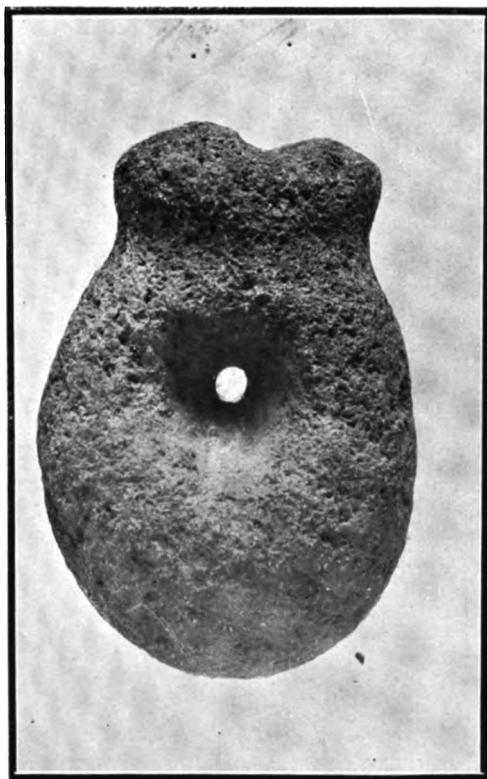


Fig. 52.—Carved sinker.

of the greater depths. *Hapuka* of great size are now caught in 125 fathoms in Palliser Bay by the local fishermen.

#### NETS.

The names of a great number of nets are to be found in the Maori dictionary and in lists of words relating to fishing, but very little information is now to be obtained concerning them. It is told in the story how the method of net-making was discovered, when the fairies fled from the beach as day dawned, and left their net of meshes with Kahukura. There was first discovered the stitch for netting a net, and it became a pattern for him. He then taught his children to make nets, and by this the

a whole horse-shoe, with one end sharpened, used as a fish-hook for groper. Some of the heavy sinkers were required for *hapuka*-fishing, as that huge fish, sometimes weighing 100 lb. in weight, feeds in deep waters, and a large sinker is required to take the baited hook down quickly through the shoals of *tamure*, of little account in comparison with their fat neighbours



Fig. 53.—Small carved sinker.

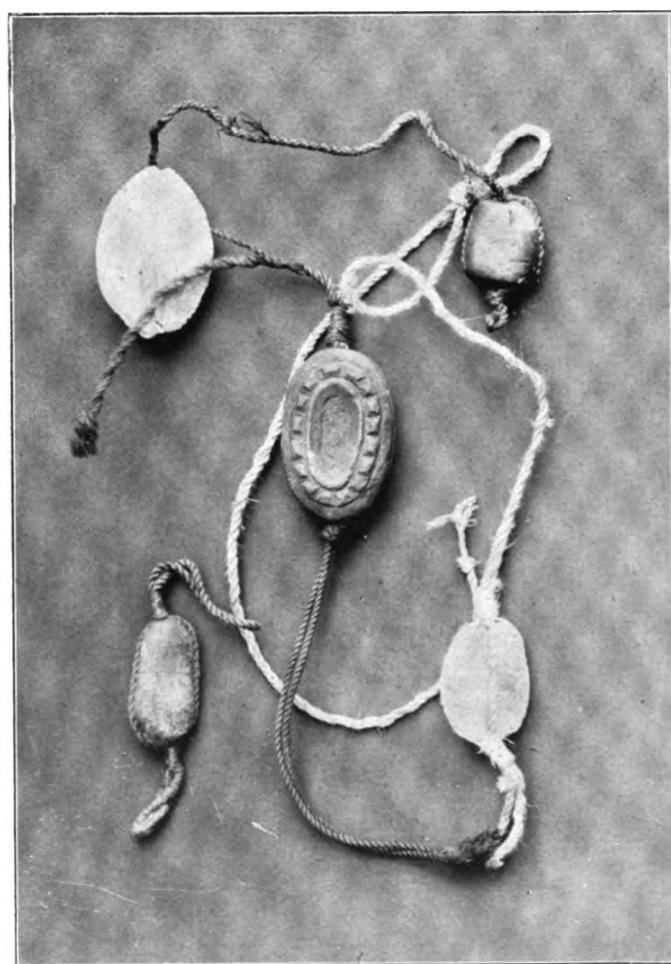


Fig. 54.—Sinkers from East Cape.

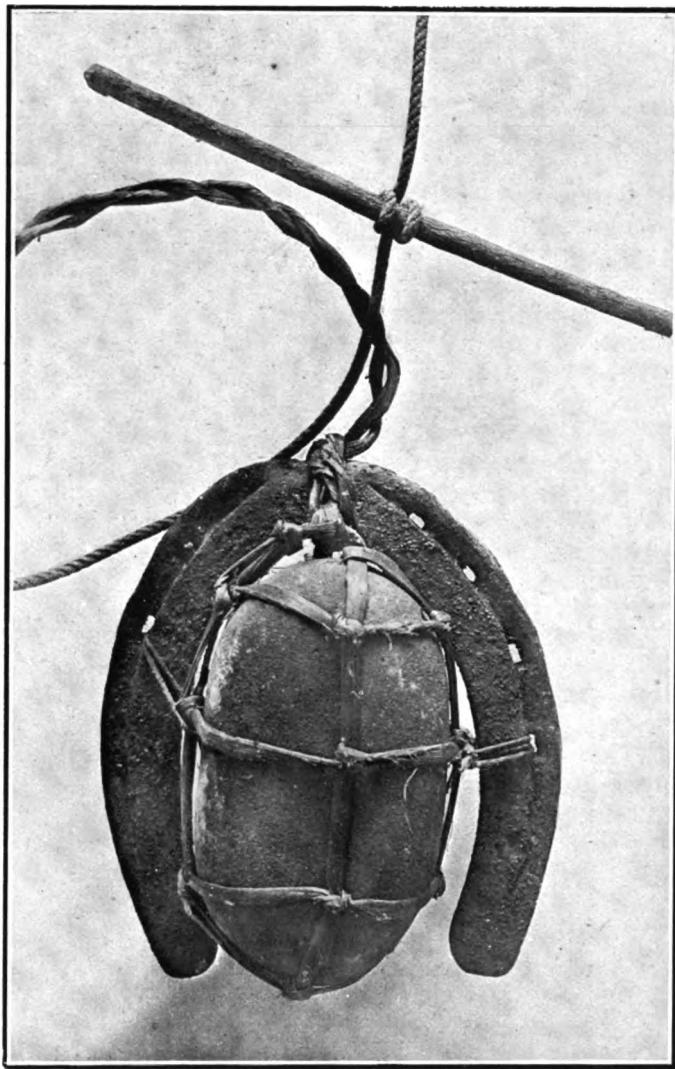


Fig. 55.—Spreader for hook and horse-shoe used as sinker.

Exhibition in 1889-90 I had a large net of this kind from the Bay of Plenty, and when it was hung up it reached a great distance; but I find that I have no measurements, and after the Exhibition the net disappeared.

I am indebted to Mr. S. Percy Smith for the following *karakia* recited during the making of a net:—

E ngau ana te tawatawa ;	Ko te ika ngutu poto,
E ngau ana te tawatawa ;	A-ha-ha !
Ki te matao (? matau) te harakeke :	Ko te ika teretere.
Kia mate iho.	Puritia ai te whenua.
Matemate te tawatawa ;	Ka rukuruku, ka heihei a ;
Ko te ika ngutu roa ;	Ka rukuruku, ka eaea ;
Ko te ika ngutu poto,	Oi, mokopu Tangaroa meha !
Ko te ika ngutu roa.	Ka eke ki runga.

\* Poly. Myth., p. 291.

† Hawksworth, "Cook's Voyage," vol. iii, p. 368.

[*Translation.*]

The mackerel\* bites ;  
 The mackerel bites ;  
 It bites the fish-hook, the lashing ;  
 Then let it die.  
 The mackerel shall die ;  
 The long-nosed fish,  
 The short-nosed fish,  
 The long-nosed fish,  
 The short-nosed fish,  
 A-ha-ha !  
 The shoal of fish.  
 Hold them to the land.

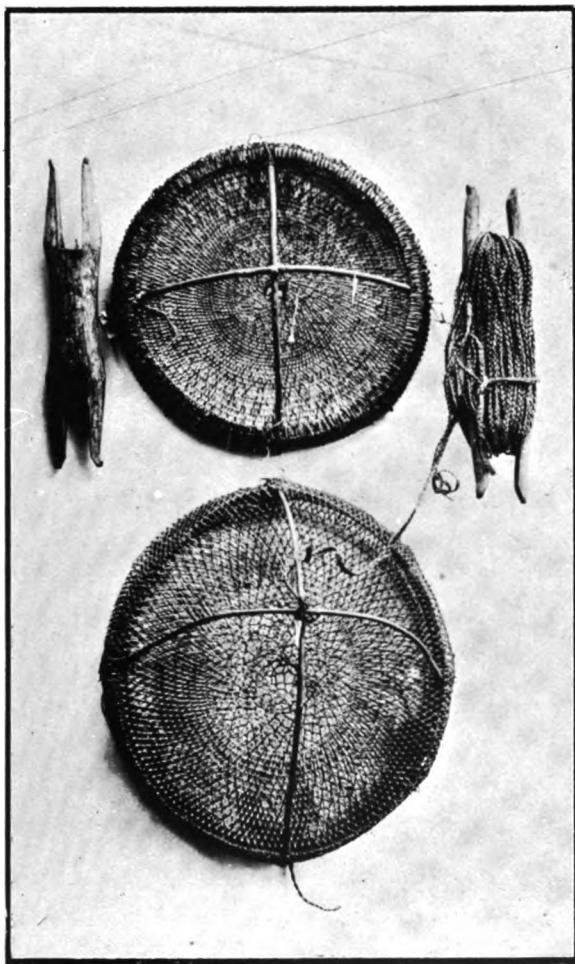
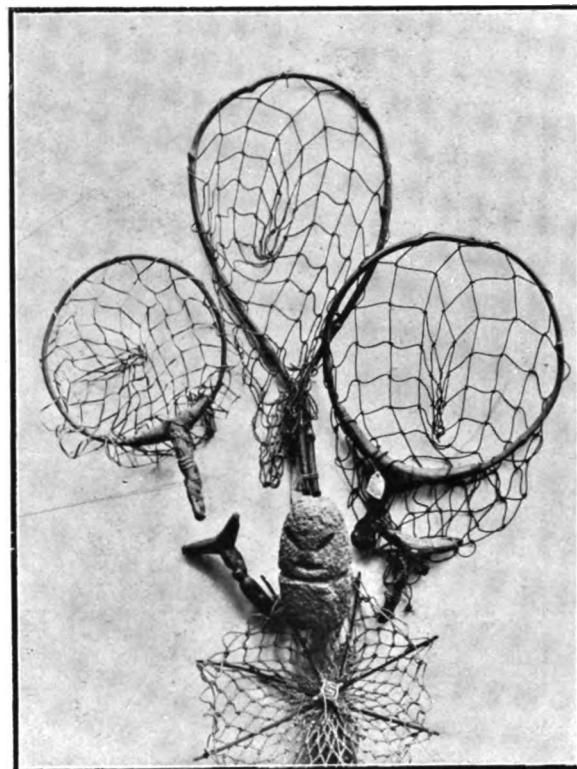
Fig. 57.—Nets for *koura*, Lake Taupo.

Fig. 56.—Hand-nets and carved sinker.

They dive ; they "kick up a dust" ;†  
 They dive ; they rise to the surface ;  
 O, spring up the offspring of Tangaroa !‡  
 They landed up above.

HE KARAKIA HI IKA.  
 Te ika i Rangiriri ra-e !  
 Ka tukia i reira, ka ngarue i reira,  
 Whare ripo, whare o Tangaroa.  
 Rire !  
 Ko ika ka tere mai.  
 Rire !  
 Te arataki ki whane toro hai.  
 Te ika i Kapiti ra-e !  
 Ka tukia i reira, ka ngarue i reira,  
 Whare ripo, whare o Tangaroa.  
 Rire !  
 Ko ika ka tere mai.  
 Rire !  
 Te arataki ki whane toro hai.

\* *Tarawawa*, so-called mackerel, only found in the north. It is *tapu* to Ngatiwhata Tribe, whose ancestor was eaten by these fish.

† "Kick up a dust" is the equivalent of *heihei*. It means here the foam and obscurity and confusion in the waters caused by the attempts of the fish to escape.

‡ *Mokopu Tangaroa* is an expression obsolete except in this connection, and means the jumping-up of the fish above the surface, as when the *kahauai* is caught on the line.

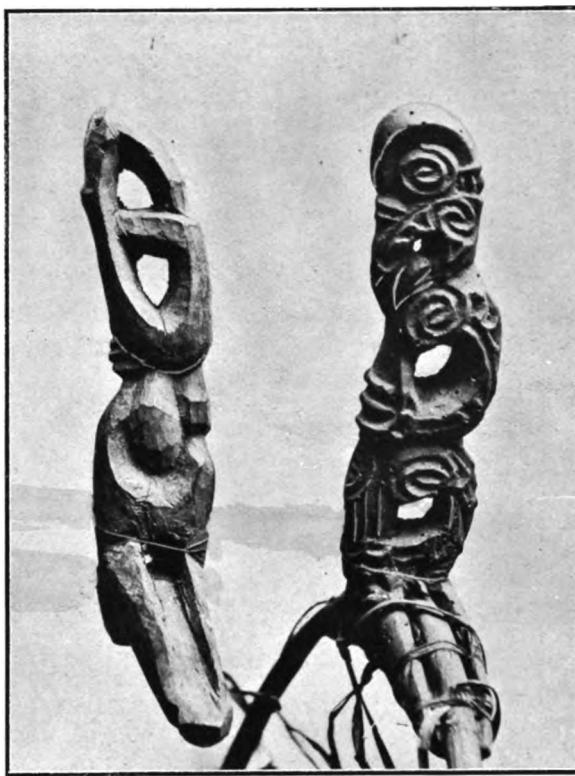


Fig. 58.—Carved handles for hand-nets.

Te ika i Whanganui ra-e !  
Ka tukia i reira, ka ngarue i reira,  
Whare ripo, whare o Tangaroa.

Rire !

Ko ika ka tere mai.

Rire !

Te ika i Waitara ra-e !

Ka tukia i reira, ka ngarue i reira,  
Whare ripo, whare o Tangaroa,

Rire !

Ko ika ka tere mai.

Rire !

## [Translation.]

O fish at Rangiriri !

Where ye (first) killed, where ye squirmed.  
In the whirlpool house of Tangaroa.

So be it !

The fish that hither come.

So be it !

Led here, with fierce on-coming.

O fish at Kapiti !

&amp;c., &amp;c.

O fish at Whanganui !

&amp;c., &amp;c.

O fish at Waitara !

&amp;c., &amp;c.

The story of the treachery of Maru-tuahu on the day of "the feast of rotten wood" is essentially of a great fishing-net, and this is how it is told : Whilst Maru-tuahu was living at Hauraki, his father (Hotonui) told him how very badly some

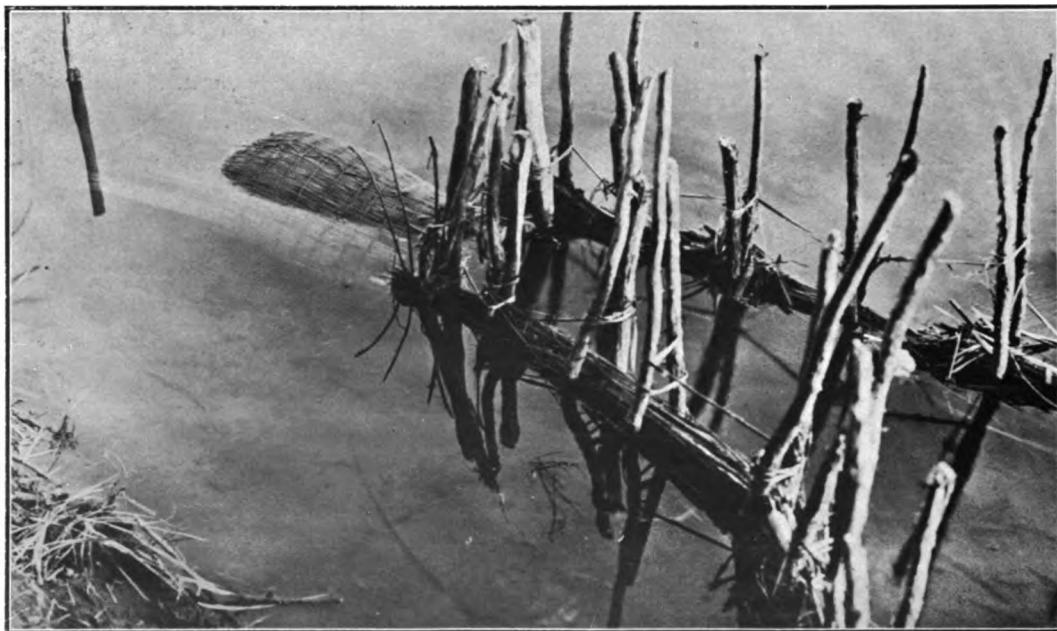


Fig. 95.—Small fish-trap (set), Tongariro River.

of the people of that place had treated him. These were the facts of the case, as the old chief related them to him : One day, when the canoes of the tribe came in full of fish, after hauling their nets, he sent down one of the servants from the house to the canoe to bring back some fish for him, and when the servant ran down for the purpose, the man who owned the nets said to him, " Well, what brings you here ?" And the servant answered, " Hotunui sent me down to bring up some fish for him ; he quite longs to taste them." Upon which the owner of the nets cursed Hotunui in the most violent and offensive manner, saying, " Is his head the flax that grows in the swamps at Otoi ; or is his topknot flax, that the old fellow cannot go there to get some flax to make a net for himself with, instead of troubling me ?" When Hotunui's servant heard this he returned at once to the house, and his master, not seeing the fish, said, " Well, tell me what is the matter " ; so he replied, " I went as you told me, and I asked the man who had been hauling the net for some fish, and he only looked up at me. Again I asked him for fish, and then he said, ' Who

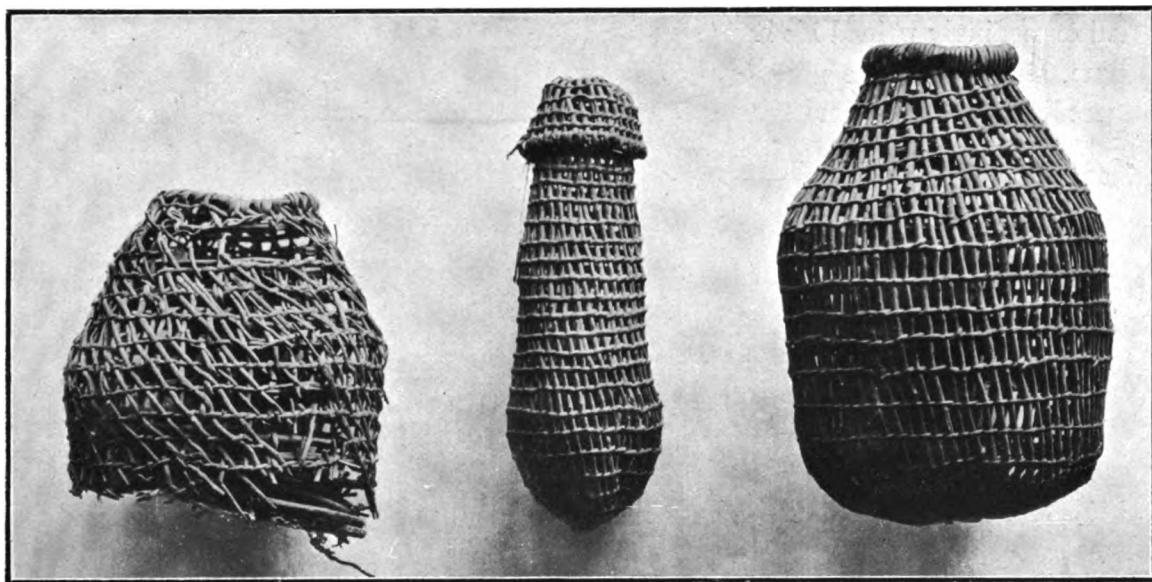


Fig. 60.—Small fish-baskets for lampreys and eels.

sent you here to fetch fish, pray ?' Then I told him, " Hotunui sent me down to bring up some fish for him ; he quite longs to taste them.' Then the man cursed you, saying to me, ' Is Hotunui's head the flax that grows in the swamp at Otoi ; or is his topknot flax, that the old fellow cannot go there to get some flax to make a net with for himself ?' " When Hotunui had told this story to Maru-tuahu he said, " Now, O my son ! this tribe is a very bad one ; they seem bent upon lowering their chief's authority." The heart of Maru-tuahu felt very gloomy when he heard his father had been treated thus ; and Hotunui said to him, " You may well look sad, my son, at hearing what I have just said ; this tribe is composed of very bad people ; " and Maru-tuahu replied, " Leave them alone ; they shall find out what

such conduct leads to." Then Maru-tuahu began to catch and dry great quantities of fish for a feast, and he worked away with his men at making fishing-nets until he had collected a very great number. It was in the winter that he began to make these nets, and the winter, spring, summer, and part of autumn passed before they were finished. Then he sent a message to the tribe that had cursed his father to ask them to come to a feast, and to help him to stretch these nets ; and when the messenger came back, Maru-tuahu asked him, " Where are they ? " and the messenger answered, " The day after to-morrow they will arrive here." Then Maru-tuahu gave orders, saying, " To-morrow let the feast be ranged in rows, so that when they arrive here they may find it all ready for them." Upon this they all retired to rest, and when the dawn appeared they arranged the food to be given to the strangers in rows. The outside of the rows was composed of fish piled up ; but under these was placed nothing but rotten wood and filth, although the exterior made a goodly show. He intended the feast to be a feast at which those who came as guests should be slaughtered, in revenge for the curse against Hotunui, which had exceedingly pained his heart. Soon after daybreak the next morning the guests came, and, seeing the piles of provisions which were laid out for them, they were exceedingly rejoiced, and longed for the time of distribution, and when they might touch the food, little thinking how dearly they were to pay for it. The guests had

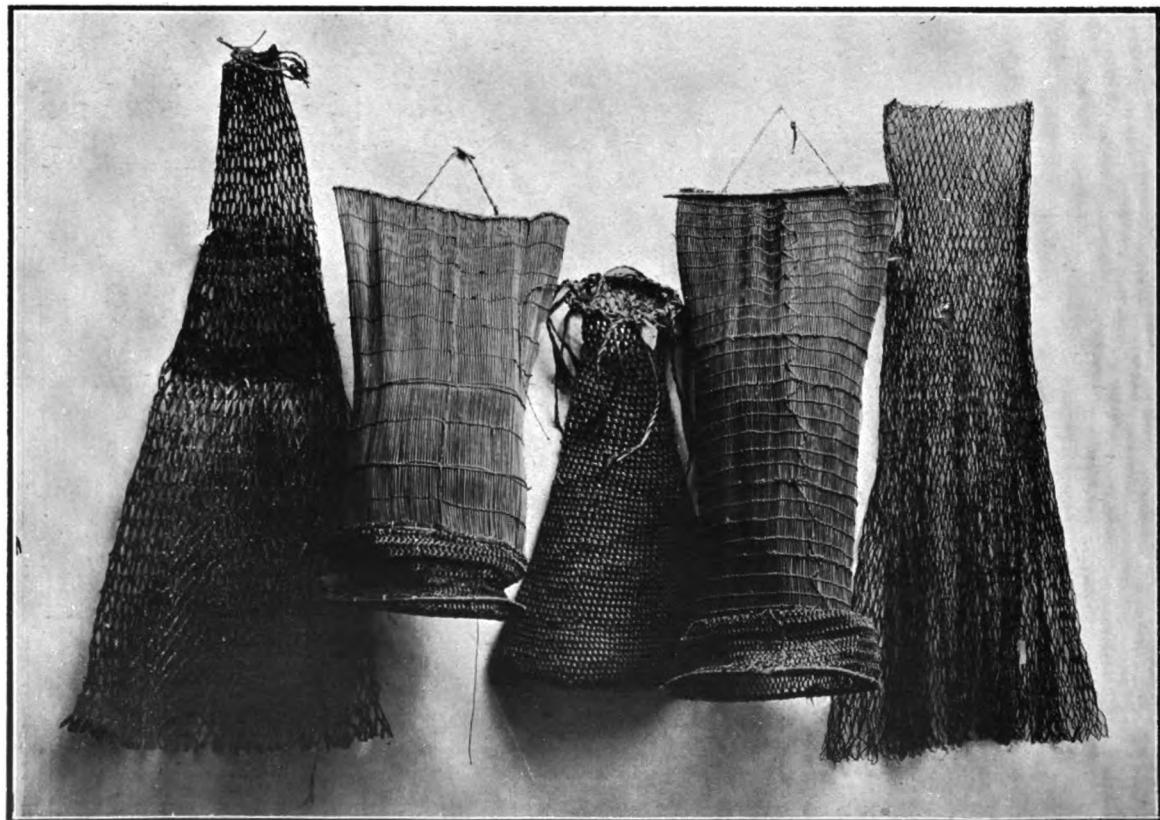


Fig. 61.—Fish-traps, Lake Taupo.

all arrived, and had taken their seats on the grass, when Maru-tuahu and his people came together—they were only 140. As they were to stretch the great net, made up of all the small ones, upon the next morning or that evening, they put all the nets and ropes into the water, to soak them, in order to soften the flax of which they were made, so that they might be more easily stretched; and when the morning dawned, those who had come for the purpose began to draw out the net, stretching the rope and the bottom of the net along the ground, and pegging it down tight from corner to corner, and thus whilst Maru-tuahu's people were preparing food for them to eat, the others worked away at stretching the net taut, and pegging it fast to the ground to hold it. It was not long before they had finished it, and put on the weights to sink it.

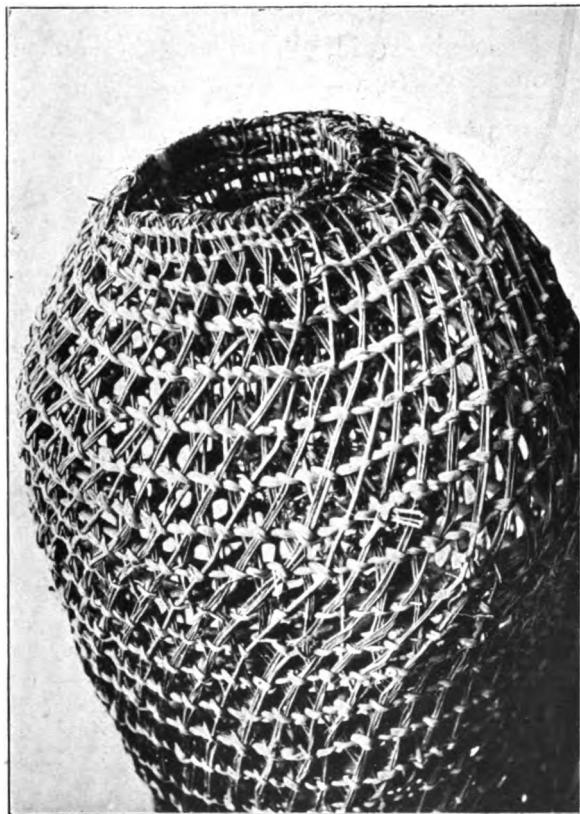


Fig. 63.—*Hinaki*, or eel-basket, Wanganui.



Fig. 62.—Urewera Natives, with fishing-devices.

Maru-tuahu sent a man to see whether they had finished stretching the net, and when the man came back he said, "Have they done stretching the net?" and the man answered, "Yes, they have finished." Then Maru-tuahu said, "Let us go and lift the upper end of the net from the ground; they have finished the lower end of it." Then the 140 men went with him, each carrying a weapon carefully concealed under his garment, lest their guests should see them, and when they reached the place where the net was they found the guests (nearly a thousand in number) had finished stretching

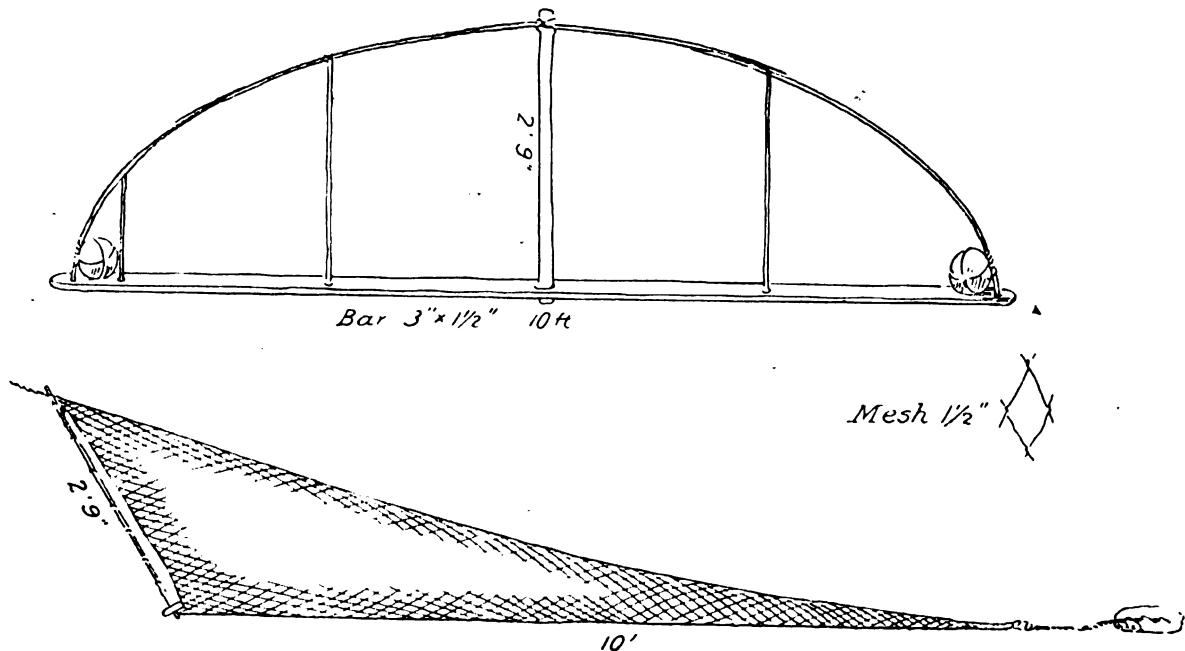


Fig. 64.—Large dredge-net and diagram.

the lower end of the net. Then the priest of Maru-tuahu, who was to consecrate the net, said, "Let the upper end of the net be raised, so that the net may be stretched straight out," and Maru-tuahu said, "Yes, let it be done at once; it is getting late in the day." Then the 140 men began to lift up the net; with the left hand they seized the ropes to raise it, but with the right hand each firmly grasped his weapon, and Maru-tuahu shouted out, "Lift away, lift away; lift it well up." When they had raised it high in the air, they walked on with it, holding it up as if they were spreading it out, until they got it well over the strangers who were pegging the lower end down, or were seated on the ground looking on. Then Maru-tuahu shouted out, "Let it fall," and they let it fall, and caught in it their guests, nearly a thousand in number. They caught every one of them in the net, so that they could not move to make any effectual resistance; and whilst some of the 140 men of Maru-tuahu held the net down, the rest slew with their weapons the whole thousand. Not one escaped, whilst they lost not a single man themselves. Hence "the feast of rotten wood" is a proverb amongst the descendants of Maru-tuahu to this day. The "feast of rotten wood" was given at a place which was then called Pukeahau, but which was afterwards called Karihitangata (and men were the weights which were attached to the net to sink it), on account of the thousand people who were there slain by treachery in the net of Maru-tuahu, for men were the weights that were attached to the net to sink it. After the death of all these people the country they inhabited became the property of Maru-tuahu, and his heirs dwell there to the present day.



Fig. 65.—Eel-baskets, Wanganni River.

I am indebted to Archdeacon Williams for the following information obtained by him on the Poverty Bay coast. He defines the *kaharoa* (Fig. 77) as a large net, often as much as a mile in length. It is made in sections ; as a rule, neighbouring hapus combining in the construction, each hapu taking a section. The middle section (*takapu*) is often up to about 40 *kumi* (*kumi*=10 fathoms) in length, and 6 or 7 *kumi* in depth at the centre. This part was made with fine meshes (*mata*) ; on each side was a section (*rapinga* or *waha*) about 10 *kumi* in length, and decreasing in depth from that of the *takapu*, while the meshes increased gradually in size from those of the *takapu* outwards. Outside each *rapinga* was another section (*kau-angaroa*) of similar length, constructed in the same way, with gradually increasing meshes and decreasing width,\* fastened finally to a pole (*pourakau*†) about 6 ft. in height. When completed, the sections were securely fastened together, and a rope of harakeke of three strands (*kaharunga*) attached to the top edge, with a similar rope (*kahararo*) on the bottom edge. Ropes were attached to each of the *pourakau*, and joined to a rope several *kumi* in length. Floats (*poito*‡) made of small gourds,

\* The mesh was made on the closed fist or the bunched fingers. Towards the centre, where greater strength was required, the meshes were smaller.

† This name is sometimes applied to the two extreme sections of the net.

‡ In the South Island inflated bags of kelp were used as floats. Some of these were found in a cave at Okain's Bay, Akaroa, and are now in the Canterbury Museum.

or of a light wood called *whau*, were fastened at intervals along the *kaharunga* of the *takapau* and the two *rapinga*, with sinkers (*karihi*) along the *kahararo* corresponding. These *karihi* consisted of small nets or bags containing stones.\* The net was carried by a file of men, and deposited in a large canoe (*taurua*), and one of the end-ropes secured on shore, while the canoe made a wide detour, paying out the net as it moved. The movements of the canoe were directed by a man on an eminence near the shore waving a branch of *rangiora*. When the net was drawn close to the shore, the fish were secured in a landing-net with a round head (*korapa*). The landing-net was similar to those in Fig. 56, but sometimes had a long handle.

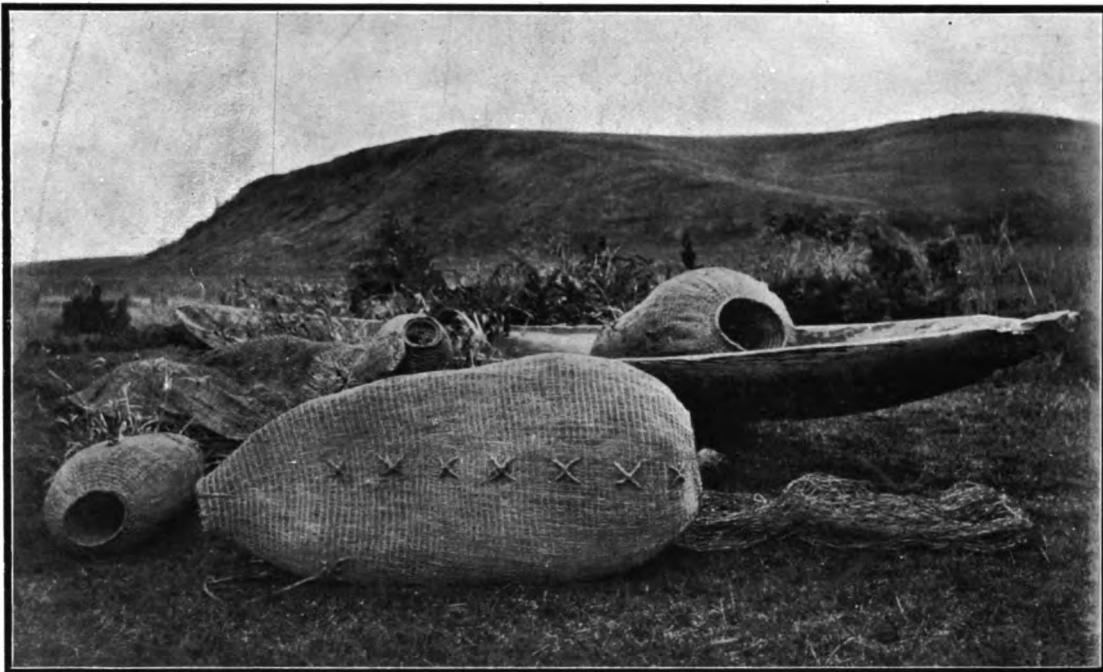


Fig. 66.—*Hinaki*, or eel-trap, Wairarapa Lake.

A smaller seine net, about a *kumi* in length, with *pourakau*, but no floats or sinkers, called *tawauwau*, or *rangatahi*, is worked by two or three men near shore, or in an estuary, carried out into the sea, and returned in a half-circle to shore.

There is a net called *matiratira*, in which poles are placed at the mouth of a river. The net is laid by the poles at low water, with bottom edge secured, and cords are fastened from the upper edge to the top of the poles, whereby the net is drawn up at high water.

The *kaka* is a small net about 2 fathoms in length, with small meshes and sinkers, used for catching *inanga*.

The *rana* is similar to the *kaka*, but without sinkers, and is used for catching *upokororo* during a fresh in a river or stream.

\* *Rapinga*, or *waha*: My informants were not perfectly clear whether these are synonymous or really separate parts. I am inclined to think that the latter is possibly the case.

The *auparu* is a net on an oval frame, about 7 ft. by 2 ft., with one float (*poito*) and two sinkers (*punga*). It is used in a river-way, and is fastened by a rope to a pole (*poutahaki*).

A *koko-kahawai* is a landing-net for catching *kahawai* near the shore, such as are shown in Figs. 56 and 57.

A somewhat similar net (called simply *kupenga*), only narrower at the point, is used to catch *kehe* by the process called *koko-kehe*. This fish abounds in the long narrow fissures in *papa* rock frequent along this coast. One man holds the net in a convenient position, while another with a pole (*koko*)\* drives the fish down by probing all parts of the fissure. Occasionally one man uses the net and does the probing with his feet: this process is called *taki-kehe*, and is generally done by night. Sometimes *kehe* are caught, seized with the hands, and lifted quickly out of the water. They are also caught in a *hinaki* or eel-pot.

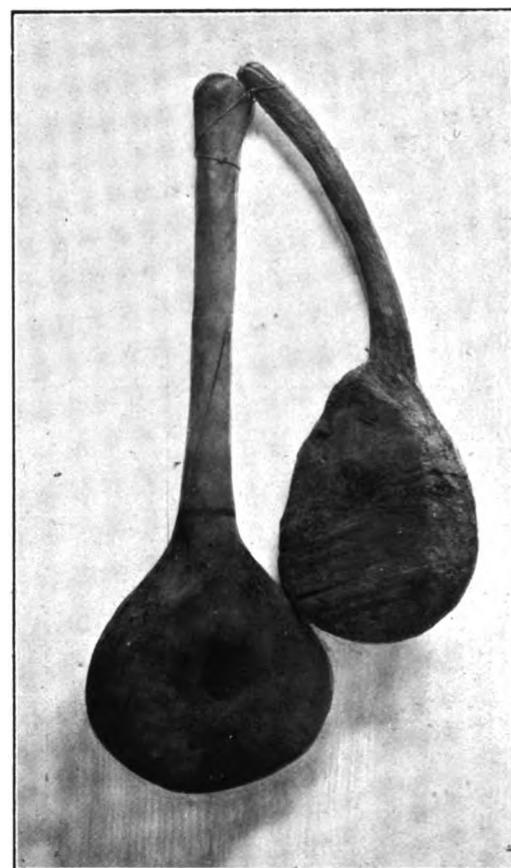


Fig. 66A.—*Ta*, or maul, for knocking in the stakes of an eel-pa, or weir.

There are certain terms used in the East Coast district which differ from those in other parts. To catch fish with a net is *hao*; with a line, *hi*. A line is just *aho*, but the detachable portion at the end is known as *toro*. This carried two or more short pieces of wood (*pekapeku*, or spreaders), to which was attached the *tau*, or thong, for the hook (*matau*). Running on from the hook was a light string (*takerekere*), for binding the bait on to the hook. Last of all was the *taumake*, holding the *mahe*, or sinker, a stone, frequently cornelian, or some similar stone, with a groove worked round it to carry the cord.

In a paper read before the Auckland branch of the New Zealand Institute, Captain Mair gives some notes on fishing in the Piako River. He was visiting a village called Pokatumawhenua, about three miles up the river, in the month of March. Here he found a large number of Natives catching fish in a net called a *tarawa*, or *riritai*. Some stout *manuka* poles were put up in the channel where the current took a straight run. The two sets of poles (*tauhoki*) were about 20 ft. to

\* *Koko* in dictionary is stated to be the net. This is a mistake; it is really the process of "digging" the fish out of the hollows in the rocks. It might be applied, though not quite strictly, to the pole with which the "digging" is done.

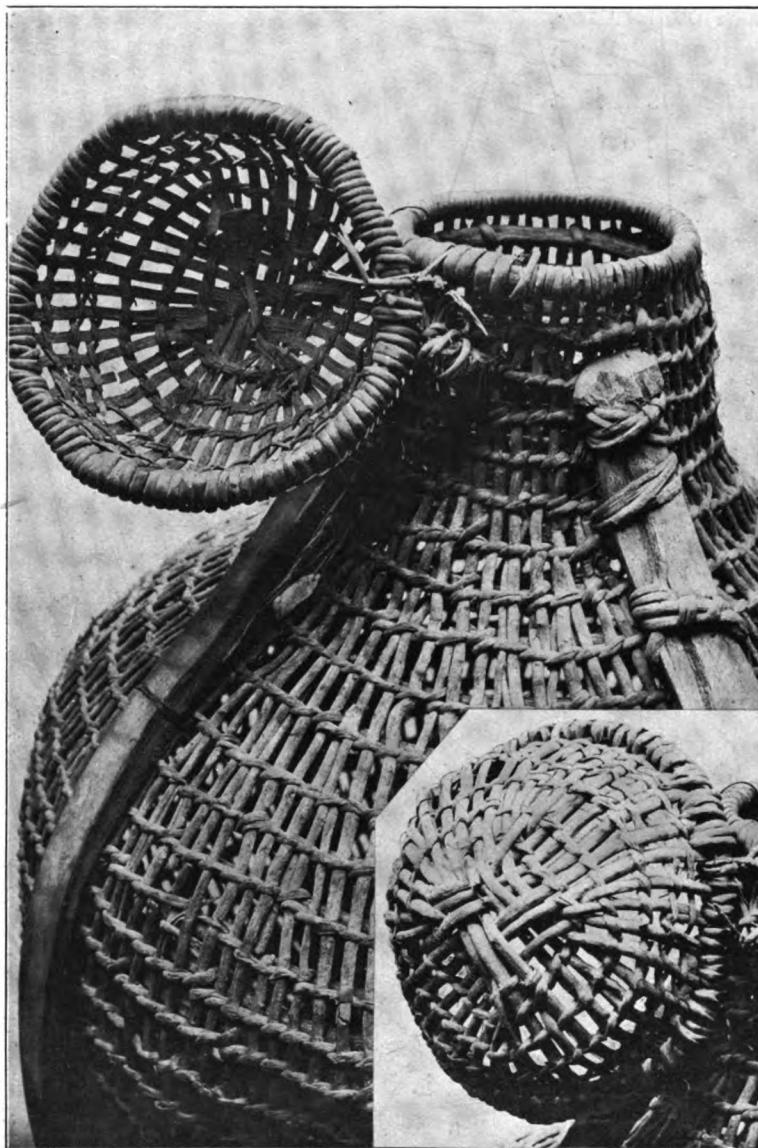


Fig. 67.—Fish store-basket, Wanganui River.

three-quarters of an hour, with the following results : 581 eels (from 1 ft. to 4 ft. in length, the largest the size of one's arm) ; 8 dozen flounders, of various sizes ; large numbers of *aua*, or *kataka* (mullet) ; about 60 lb. or 70 lb. weight of pilchard, or *mohimohi* ; a few schnapper and *kahawai* ; hundreds of young red-cod and *rarii* ; and a number of *kokopu*, or *rawaru*. A very large number of whitebait (*inanga*) were also caught at the same time. The Piako River is here about 60 yards wide, and the portion occupied by the net was only 5 or 6 yards. The tide comes up beyond the point.

The eel-traps, shown in Figs. 65 and 66, varied very much in size and shape, and were constructed with much ingenuity, the usual material being creeping shoots and roots of a number of plants. The material bears the general name of

25 ft. apart, and as soon as the tide commenced to ebb, a funnel-shaped flax net about 60 ft. in length was fixed in the opening, the lower edge being pinned to the bottom by long poles forked at the ends. The top edge of the net was fastened to a bar from one set of stakes to the other. The fish, if the tide be favourable, are taken out about every quarter of an hour. This is done by lifting the long tapering end of the net and emptying the contents into a canoe. As soon as the ebb has ceased and the flood tide comes up, the net is simply turned inside out ; and so the process goes on until sufficient fish are caught to occupy all hands with cleaning and drying. Assisted by a Native lad, Captain Mair lifted the net twice in about

*aka*, and was gathered and prepared for use with great care. Similar to these traps were the store cages or baskets in which the eels were kept alive in the river or pond until required (Fig. 67). Very small baskets of this character (Fig. 60) were made for lampreys and for keeping small eels and fish as bait for larger fish. When set between the stakes and fences of an eel-pa, long training nets of flax were spread, all leading to the mouth of the trap.

In Fig. 56 are shown three hand-nets used for fishing in rock-pools, and in the long narrow rift in the clay rocks on the East Coast. A number of good edible fish are found in these places, and are stirred up either with the foot or with a pole, and captured with the net. The handle is carefully made from a T-shaped piece of wood, generally carved (see Fig. 58), and grooves are cut to receive the ends of the supplejack used for the ring of the net. The net itself is usually made of flax twine, but in one instance is of fine strips of the unprepared flax-leaf. The centre net is more simple, and is only a length of supplejack bent into the required form. In the middle is a large stone sinker, such as is used at the end of the net portion of one of the large dredge-nets. Beneath is a small cord net (*toemi*), kept extended by split pieces of supplejack, weighted underneath at the centre by a stone sinker. Bait is fastened to the centre of this, and tied on with a string. The net is then let down and rapidly drawn to the surface, when a crayfish or fish approaches the bait. This net is from the East Coast district.

The Natives on the large inland lakes of Taupo and Rotorua have long been famous for their skill in the manufacture of traps and nets for the capture of the small fresh-water crayfish found plentifully in the inland streams and waters. The nets given here (Fig. 57) are about 3 ft. in diameter and 4 in. or 5 in. deep ; they are weighted with stones attached to the sides, and, with some piece of a bird or other bait, are sunk in the lake, and the plaited flax line paid out until the wooden float at the end of the line is clear, and floats on the surface to indicate the position. After a few hours the nets are drawn up by means of the line, which is wound up on the float, and the crayfish are taken home. There is another way in which crayfish are taken, which is very ingenious and simple. A good-sized bundle is made up of some shrub that is coarse and



Fig. 68.—Net-floats, Lake Taupo.



Fig. 69.—Net-float, Lake Taupo.



Fig. 70.—Net-float, Lake Rotorua.

twiggy, and inside the bundle is placed the bait, consisting of a weka or some offal from a pig. A long line is then fastened to the bundle, and it is let down to the bottom of the lake, the position being marked by a float at the end of the line. After some hours the lines are visited, and raised slowly and carefully till they reach the surface, when they are jerked into the canoe, and knocked on the side or thwart.

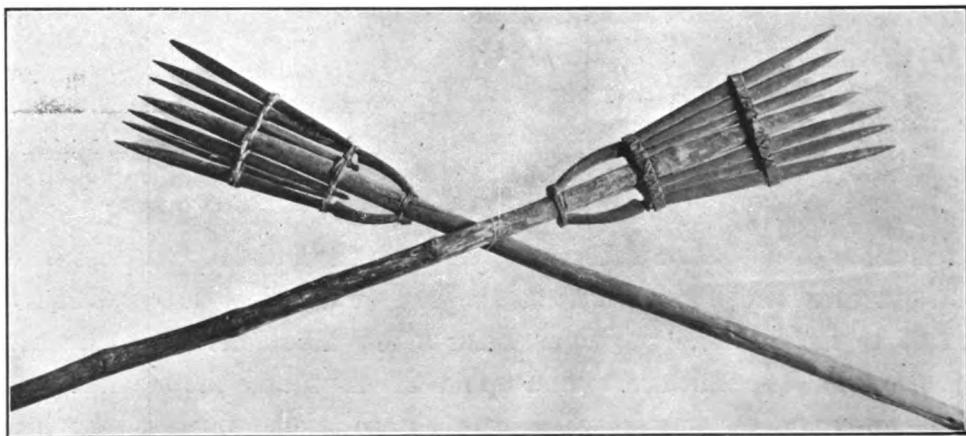


Fig. 71.—Eel-spears, Otago.

The *koura* then tumble out of the twigs into the canoe, and the bundle is again set. Sometimes a number of the bundles are set, attached each by its cord to a long line kept on the surface by floats.

Fig. 58 shows two handles for the small hand-nets. One is carved elaborately. The groove in which the supplejack which forms the ring fits is seen in the other. Both these are from Poverty Bay. They are in my collection in the Dominion Museum.

Fig. 59 represents a basket-trap set in the Tongariro River, near Tokaano, for eels and small fish. The form and structure of the trap is to be seen in the plate and in Fig. 61.

#### EELS.

One of the most important foods in the daily life of the inland Native was the flesh of the fresh-water eels (*tuna*\*), which abounded in nearly every river and stream. In the deep narrow streams in the bush districts eels grew to a great size, and the great lakes, with the exception of Taupo and Rotorua, were well stocked with them. The Natives recognised at least a hundred varieties or states of growth, and had names for them all. In the evidence taken concerning the use made by the Natives of the Wairarapa Lake about forty names are given.

In the Waikato and some of the northern rivers the *tuna tuoro* was to be found, which was a veritable *taniwha*, and frequently seized men and children.

The flesh of the larger eels was prepared by taking out the backbone and smoking or drying the flesh in the sun. A common sight in all villages at certain times of the year was a stage or rows of poles from which hundreds of small eels were hanging drying in the sun, to be stored for future use.

For the capture of eels in favourable localities, such as the great swamps on the banks of the Waikato, permanent eel-pas were built, with carved posts at the principal points, and with watchers always on the spot, to protect the interests of the owners. Johnston, in "Maoria," points out that in the Maori economy the eel played a most important part. More than every other kind of food it represented fat, the nutrient for which man, whether savage or civilised, universally craves. For the capture of this much-prized food the Maori erected huge works, only excelled in magnitude by his fortifications. He cut canals leading from the lakes, so that he might have watercourses in which to place his elaborate stake-nets, and on these and the natural outlets to the lakes he built eel-weirs of so gigantic a size and of such durable timber that many of them remain to this day. Huge timbers were drawn into the bed of the river, as close together as possible. One that Johnston describes has its right and left wings extending nearly 400 yards into the Rotorua Lake. Towards the end of summer the silver eels, for which the lake is famous, commence to leave the lake, with the autumn floods, for the sea. At the time when the lake is lowest, every

\* The sea-eel, or conger, was called *koriro* in the South, and *koriro* or *ngoiro* in the North. For a story about the conger, see *Anc. Hist. Maori*, ii, p. 91.



Fig. 72.—Eel-spear, Otago.

preparation for the coming eel-fishing was completed; every worn post was removed, and divers filled the interstices of the sunken beams with the down of the *raupo* (*punga*). As soon as the eels began to move, the chief in charge of the eel-*pa* had the huge nets put down and the great eel-basket, probably made in that part of the country of the stem of the climbing fern, the *mangemange* (*Lygodium scandens*). This was lifted every hour, and the contents poured into canoes placed ready to receive the catch. The eels, which are usually about 18 in. in length, are then cooked and eaten, or sent away as presents. The eels that escaped the net, or forced their way through the crevices in the training-walls, passed on down the stream to run the gauntlet of other weirs and pole-men further down.

About three miles and a half north of the mouth of the Awatere River there is a large mud flat forming the northern portion of Clifford Bay. Mr. C. W. Adams\* reports that about fourteen miles of canals, about 10 ft. wide, have been made by the Maoris in former times, probably for the purpose of catching eels and other fish.

In the Tutaekuri River I have seen the Natives piercing the muddy banks of the river with a spear tipped with a piece of fencing-wire. When an eel was struck, the spear was kept in its place, and the left hand worked down along the shaft of the spear until the eel was reached. The spears, with wooden barbs (in Fig. 71), have the barbs about 18 in. long, and the total length of the spear is about 7 ft. or 8 ft.

In other parts the holes in the river-banks were well known, and Natives would dive with a hook and cord, and, inserting the hand into the hole, strike the hook into any eel that might be in the hole at the time.

Mr. Percy Smith, in one of his papers,† refers to a *marau tuna*, or eel-rake, as having been used at Te-roto-a-tara, in Hawke's Bay, a swampy lake near Te Aute, long famous for its eels.

Sword-shaped wooden clubs are frequently found in the swamps of the North Island, which have been used as eel-clubs to kill the eels taken in the traps and shallow places at the edge of the swamps. Usually they are made of hard wood, as in Fig. 73. They are thick on the back, and sharp-edged on the other side. Small ones are sometimes seen made of bone.

\* C. W. Adams: Poly. Soc. Journ., i, p. 169.

† S. Percy Smith: "Wars of the Nineteenth Century."

The *tuna tuoro* was greatly dreaded by those who waded in the shallow Waikato swamps for eels, for it glided up without being noticed, and if it touched them ever so slightly they were instantly paralysed and destroyed. It would even pursue its prey over the dry ground, and its progress could only be checked by setting fire to the grass and fern, when the ash adhering to its slimy body rendered it helpless, and incapable of moving any further. South Island traditions represent it as scaly.

Brunner, in the course of his adventurous journey on the west coast of the South Island in 1847, relied largely on the eels that were caught by the Natives who were with him. He says, "There is a particular *tapu* existing amongst the Natives relative to the eel. You must wash your hands before going to catch them, and also on returning, and the bait must be prepared some distance from the house. There must be a distinct fire for cooking the eels, for which you must have a special tinder-box ; your hands and mouth must be washed both before and after partaking of them, and, should it be necessary to drink from the same stream from which the eels are

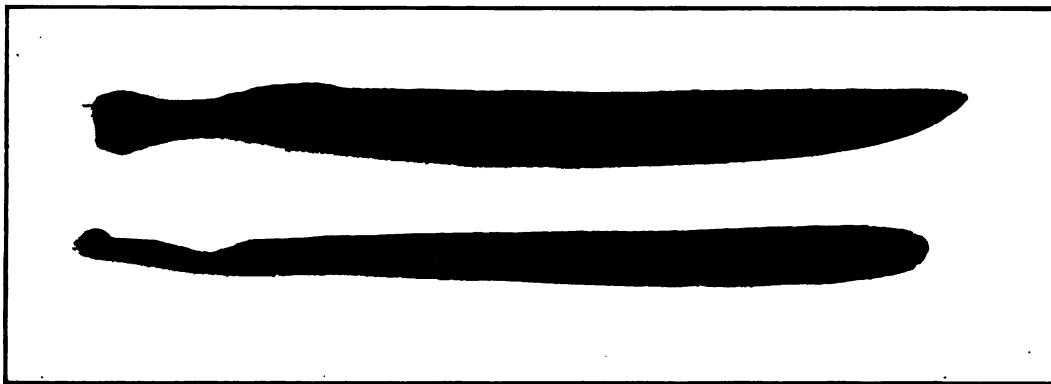


Fig. 73.—Eel-killers, Waikato.

caught, you must have two vessels of water—the one to drink from, the other to dip from the stream. Whether this relates to particular places or not I am not able to say, but I found it strictly adhered to at [H]Okitika and Okarito. At the former place I had to walk half a mile for water, with a stream running within a few yards of our station." They made a *kupenga*, or net, from flax about 50 ft. by 4 ft., and in several places caught *upokororo* in considerable numbers, fifty or more at a time.

In drying the larger eels, they were split down the back.

When sea-fish were plentiful they were dried for winter use. Great quantities of mackerel (*tawatawa*) were caught in the large seine nets : if not required for immediate consumption, they were cleaned, heads and tails cut off, and split into halves. The fish were then stored in large earth-ovens made on the beach. These ovens were heated with a special kind of wood. When the fish were sufficiently cooked, they were taken out as far as possible unbroken, and placed on raised stages to dry in the sun and wind, and when dried packed in large flax baskets for winter use. Captain Cook remarks on the number of mackerel he obtained in Mercury Bay in November,

'1769. "At 8 o'clock," he says, "the ship had more fish on board than all her people could eat in three days; and before night the quantity was so increased that every man who could get salt cured as many as would last him a month."\*

The method of preserving *koura*, the small fresh-water crayfish, was most interesting and novel. In November this crustacean would be caught in great numbers, and taken on shore near to a stream of fresh-running water. Into this water they

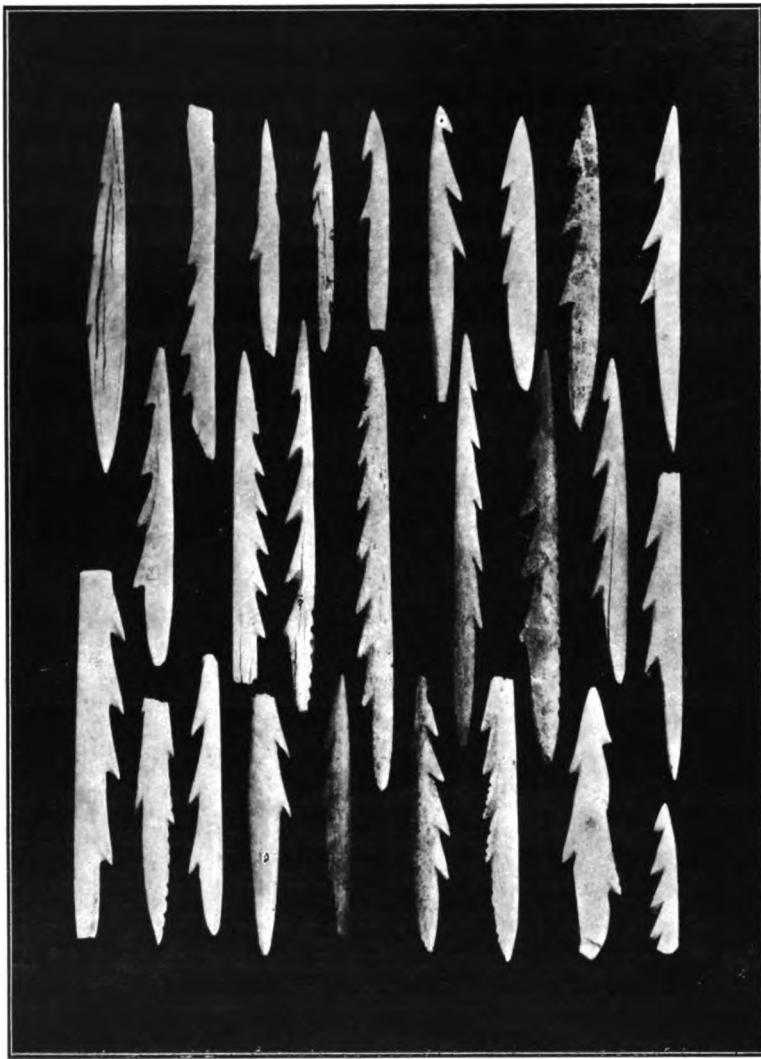


Fig. 74.—Bone spear-heads.

would be securely and closely packed in rows across the stream, like tiles on a house-top, and kept down with stones placed on them. When dead they were taken out, and their shells stripped off. These came off very easily, and the whole body of the fish, with its legs and feelers, came out from the shell in one piece, unbroken. These were quickly prepared, flattened, with their legs, &c., confined and pressed on their

\* "Voyage," vol. ii, pp. 335 and 440.

bodies, and hung up high in tiers on erected stages in the sun and wind to dry, and when dry were securely packed into flax baskets. Each *koura* when dry presented a most curious appearance—small, thin, light in weight, and whitish—just a small cake of dried fish, much appreciated by the Natives, and often sent to inland friends or relations as presents.

The shark most prized by the Maoris was called *mako*. It was not eaten like the other kinds—the *karaerae*, the *piako*, the *ururoa*, the *tuatini*, the *tahapounamu*, the *taiari*, the *tatere*, the *mangopare*, the *mango-ureroa* or *mango-ururoa*, the *mangotara*, and the *kapeta*. Of the *mango-ururoa* it is said, in honour of his gameness when hooked, “*Kia mate a ururoa.*” It was about 12 ft. long, and when caught at sea its head would be cut off and preserved for the teeth. The head would be cut off with a sharp-toothed knife—that is, the teeth of the *tatere* or *tuatini* shark set in and tied tightly to a wooden handle. Native tradition says that it could not be captured with hook or line, but when seen they would let a tempting bait down in front of it, and, as the shark followed the bait down, its tail would rise out of the water. At this moment a strong noosed rope would be thrown over the tail, and after a long struggle it would be captured. The *kapeta*, a small shark or dog-fish, was formerly taken in great numbers by the Maoris, and dried on long stages or racks in the sun for winter use. In an article which Mr. Stowell has kindly written for me on Maori fishing, he says, “Despite its disagreeable odour, the flesh was extremely delicate and nutritious. In large villages of harbours where the *kapeta* annually swarmed, such as Rangaunu, north of Doubtless Bay, *kapeta* staging, in three tiers, exceeded a quarter of a mile in length, and the smell thereof could be smelled eight miles away. They were left for a month or more to dry. The young of the *kapeta* is known as the *pioke*.” The article also deals with the *piharau*, or lamprey, and the method employed by the Maori in capturing the shoals as they ascend the rivers; also with the blind sea-eel (the *tuere*), much esteemed for its fatness.



Fig. 75.—Sea-goddess (*maraki hau*).

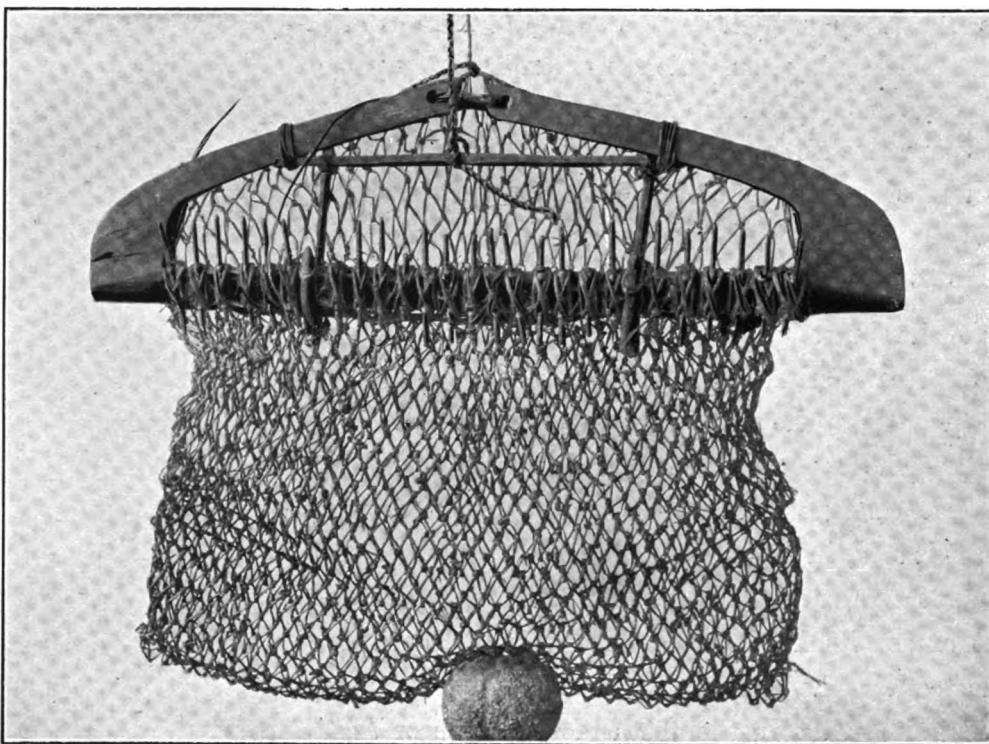


Fig. 76.—*Roukakahi*, or dredge-rake, from Rotorua.

A great number of beautifully worked bone barbs with from three to eight or nine teeth are found in the coastal sandhills on the site of old settlements (Fig. 74). A number of these were no doubt used for spearing flat-fish on the tidal flats; the larger were probably for bird-spears, but I do not know any method of distinguishing them. The specimens given were collected on the coast of Otago, between Shag Point and the Otago Heads. They are now in the Dominion Museum. The length of the largest specimen is 90 mm.

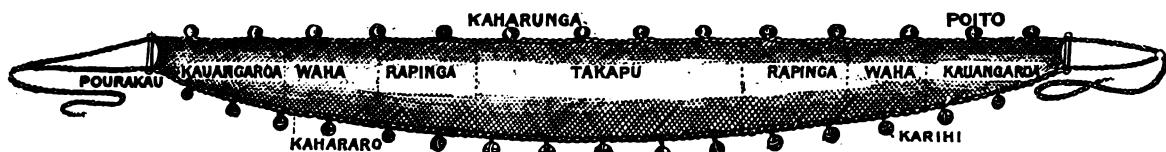


Fig. 77.—Diagram of the parts of a seine net.

*Roukakahi*, or dredge rakes, for scraping the fresh-water mussels from the bed of the lakes are used at Taupo and Rotorua. They are worked by means of a long pole, and raked backwards and forwards from a canoe. A figure is given of a *roukakahi* with the flax net attached at Fig. 76. A larger form intended to be used as a dredge, which is not common, is given in Fig. 78, and a diagram,

with measurements, in Fig. 64. Figures of carved specimens of *roukakahi* are given in Bulletin No. 1, Figs. Lb and Lc.

The fresh-water mussels (*kakahi*) are obtained from the mud of old lagoons or ponds by the Natives groping in the mud with their feet, and picking the shell up with their toes. Mr. Elsdon Best has an excellent account of the fresh foods of the Urewera Natives in one of his contributions to the "Transactions of the New Zealand Institute" (Vol. xxxv, pp. 65-80). He gives an immense amount of local

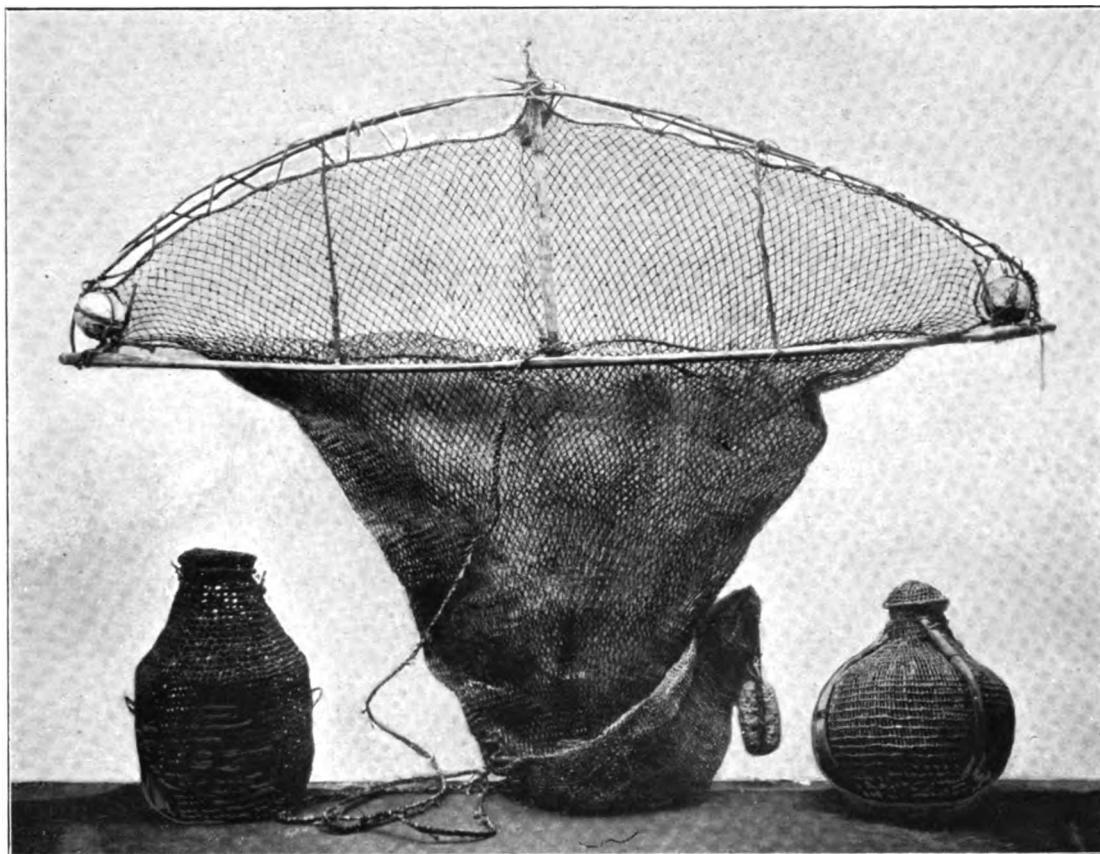


Fig. 78.—*Roukoura*, or dredge-net, from Rotorua.

folk-lore concerning eels and the methods of capture, proverbs, sayings, and charms relating to them. The Maori method of constructing the small hand-nets used for catching *kokopu* (*galaxias*) at night, known as *kupenga* and *kafe*, is given in detail, and many interesting facts about the *inanga*, the *upokororo*, and the *korokoro* or lamprey.

The name of the dredge-rake used at Roto-iti is given as *heki* by Mr. Best.



NEW ZEALAND.

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# DOMINION MUSEUM.

(A. HAMILTON, DIRECTOR.)

BULLETIN No. 3.



WELLINGTON.

BY AUTHORITY: JOHN MACKAY, GOVERNMENT PRINTER.

1911.



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# MUSEUM BULLETIN No. 3.

## THE MAORI PA AT THE NEW ZEALAND EXHIBITION.

[By A. HAMILTON.]

SHORTLY after the idea of holding an International Exhibition at Christchurch was mooted, one of the local committees, presided over by Mr. H. W. Bishop, S.M., wrote to the Hon. James Carroll, the Minister of Native Affairs, the following letter :—

DEAR SIR,—

I have the honour to address you as a member of the Maori Sectional Committee of the New Zealand International Exhibition, of which I am the Chairman.

The committee realize the great importance to the best interests of the Exhibition that the Maori Court should be made as fully representative, interesting, and attractive as it possibly can be made. We recognize, however, that it will be impossible to do full justice to what ought to be the most interesting feature of the Exhibition without special assistance from the Government. I am therefore instructed by the committee to ask you to kindly interest yourself to the extent of ascertaining definitely from the Government, of which you are a member, what special monetary assistance is likely to be granted to assist us to carry out the views that we have of what is necessary to be done to make the Maori section a complete success. It is proposed that we should obtain from various parts of the colony representative Natives who are skilled in various Maori arts, such as—

Canoe-carving,	Netmaking,	Tattooing,
House-carving,	Greenstone-working,	Palisading,
Matmaking (ordinary),	Basket and <i>kete</i> making,	Women for preparing food,
Matmaking (with dyeing),	Adzes and axes (weapons generally),	Maori-oven building ( <i>umu</i> ),
Feather-mat making,	Earthwork for fort,	<i>Pukakaho</i> (dado-work).
Weaving,		

To do this will entail the expense of the conveyance of these Natives to Christchurch, their keep and care whilst here, special remuneration for their services, and the procuring and bringing here of the raw material necessary to enable them to give exhibitions of the various arts of which they would be experts. We propose to erect a model Maori old-time *pa*, and also to have a model old-time Maori village. The carrying-out of these proposals would entail considerable expense, including the bringing to Christchurch of the material necessary for the building of the *pa* and village, with the providing of those Maoris who would be obtained to erect them in the proper style. It has been further suggested that the Government might possibly approve the bringing of some representative Rarotongan Natives from the Cook Islands, with a view to afford visitors to the Exhibition an opportunity of seeing a people in some degree allied to the Maoris, and now specially connected with New Zealand. It is thought such proposals, if carried out, would add very greatly to the interest attaching to the Maori Court.

The committee would be quite willing to undertake the care and arrangements necessary if such a proposal were carried out. It will, however, be recognized that it is impossible without special aid from the Government to in any way attempt a matter that would entail on us such extra expense. The committee are now in communication with Mr. Elsdon Best, of Ruatoki, with a view of ascertaining

what Natives in that part of the colony are available in connection with the exhibition of old Maori arts and customs, assuming that special assistance will be given by the Government to assist this committee in the objects they have in view.

I propose, immediately on receiving your reply, to make definite arrangements with a view to securing the effective carrying-out of these proposals. May I add a hope on behalf of the committee that you will see your way to give us your valuable assistance in the matter of suggestions as to the lines upon which the committee should work with a view to make this Court the great success which we think it ought to be?

Yours faithfully,

H. W. BISHOP,

Chairman.

The Hon. James Carroll, Wellington.



MR. H. W. BISHOP, S.M., OF CHRISTCHURCH, CHAIRMAN OF THE  
COMMITTEE IN CHARGE OF THE MAORI SECTION.

In March, 1906, I was instructed by the Hon. Mr. Carroll to interview the committee and to report on their proposals. The report was adopted by Cabinet, and authorization was given to proceed with the work. I then visited the site of the Exhibition, and selected an area of about two acres at the end of the artificial lake, and taking in a portion of a natural terrace and plantation of trees. This site was set aside by the Commissioners for the Maori *pa*, and arrangements were made to get three expert carvers from Rotorua to work at the Wellington Museum, under my personal supervision, in carving the large posts for the fences and carvings for

the gateway and houses. The carving was intrusted to Neke Kapua, of Ruato, on Lake Rotoiti, and his two sons. The Kapua family have been skilled in wood-carving for many generations, and are well acquainted with all the lore of wood-carving. For more than three months these three carvers worked at the Museum, and were lodged in Wellington during the time they carved the huge figures on large fence-posts (*tukuwaru*) and outer and inner *paepae* for a large house, the *pare* and other carvings for a window, the boards for two small *pataka*, and a few smaller pieces that were required.

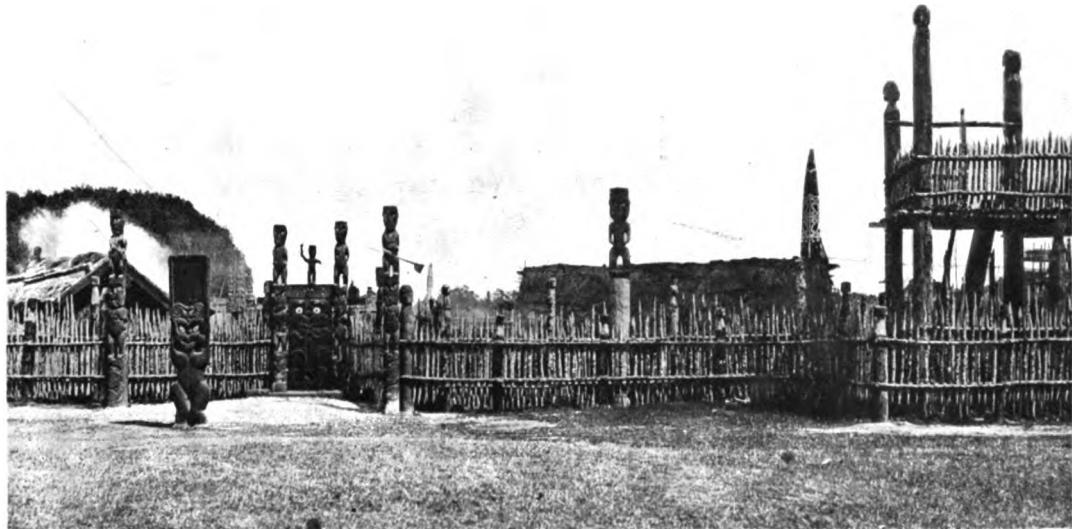
During this time a small party of Whanganui Maoris from the settlement up that river were living in a temporary house put up for their use on the site of the *pa*. The Government were fortunate in engaging Mr. Gregor McGregor, of Whanganui, to take charge of the work at the *pa* as Superintendent. It was found very



CARVING IN THE FRONT OF THE LARGE PATAKA, BY NEKE KAPUA AND HIS SONS.

difficult to procure suitable timber for the palisades and framework of the houses, and it was at last determined to employ birch or beech saplings, which could be obtained from a small bush near West Oxford, about forty miles from Christchurch. Fortunately the special railway siding into the Exhibition grounds from Riccarton enabled the timber and other material required to be brought close to the *pa*. The Natives were not very long in getting a few houses put together, as Mr. McGregor purchased several old houses up the Whanganui River, and had them brought down, thatch and all. Some of these had been erected for forty years. Two houses of considerable size were stacked on the edge of the river awaiting the arrival of the steamer, when a sudden fresh in the river carried away every stick of both houses. Quantities of *ake*, supplejacks, and *manuka* rods were obtained on the Whanganui River and sent on, together with many bundles of *totara*-bark and *nikau*-leaves.

It was found impossible to get any good *raupo*, owing to the time of the year, and a small quantity was procured from Kaiapoi, but it was much broken, and neat work could not be made with it. Rushes or *wiwi* were at first very hard to get and very expensive, but later on a very good place was found not far from Christchurch at which they could be obtained, and great quantities were used in covering the numerous buildings. In order to try and vary the sameness of the birch saplings, an order was given to a Southland firm for five truckloads of mixed saplings from the bush at Woodend, between Invercargill and the Bluff. These were mostly used in the construction of the *puhara* or *taumaihi*. The larger timbers for these platforms were *rimu* logs brought round from Greymouth. The forests in the centre of the North Island were searched for a *totara*-tree large enough to give a slab for the great gateway or *waharoa*. The Taupo Totara Timber Company provided a



THE ENTRANCE TO THE PA, WITH A NOTICE-BOARD IN FRONT OF THE GATE.

fine slab without knots or blemish 22 ft. long, 4 ft. 4 in. wide, and 6 in. thick. The slab weighed nearly a ton when received at the Museum in Wellington.

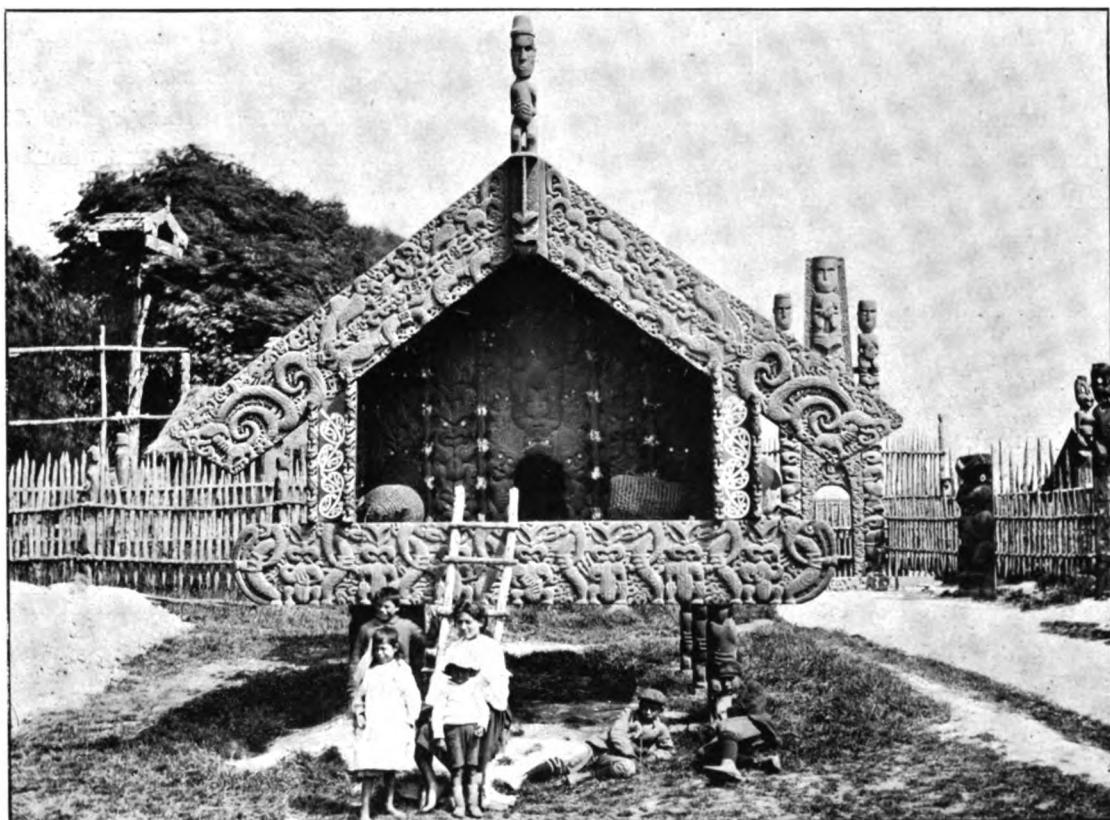
Most of the larger posts were carved from pieces of *kauri* from Auckland, 14 ft. to 18 ft. long, and measuring 16 in. by 12 in. As the houses began to take shape and order, it was found desirable to include a larger area, and additional space was included on the terrace; and, again, after the Hon. Mr. Carroll's first visit to the *pa* another extension was made, the area finally included being about three acres.

An additional number of men were procured from Whanganui, and at their desire the carvings for the entrance-gates were left for them to carry out.

In September the Native Minister paid a visit of inspection to the *pa*, and ordered an increase in the number of workers. The Rotorua carvers and their

families, from Wellington, and about twenty additional Natives, including one versed in painting the Native rafter-patterns, were sent down to the *pa*. Work now went on apace, and the palisades and ditches of the *pa* were finished, and securely tied with supplejack. The carvings for the gateways were placed in position, and the elaborately carved house hired from Mr. Donne was erected in the upper *pa*. In the lower *pa* a portion was laid off for a *marae* on which the Natives could give their dances, and the erection of a large *wharepuni*, or council-house, was commenced.

A number of carvings from the Dominion Museum were sent down to be used in the construction of the houses.



THE LARGE CARVED PATAKA OR STOREHOUSE.

The committee at an early stage of their existence agreed to purchase from Mrs. Butterworth a carved house which had been erected at the small local exhibition at New Plymouth. When this arrived it was found unsuitable for re-erection, so the carvings were used in various places.

The most elaborately carved building was without doubt a magnificent *pataka*, or food-store, carved by Neke Kapua and his sons at Rotorua, for the *pa*, being constructed by the Tourist Department at Whakarewarewa. It was lent by the Tourist Department to the committee. A number of pieces of carvings have been supplied, and all the structural framework for its completion.

Mr. McGregor purchased six canoes from various settlements on the Whanganui River, and they were brought down and refitted with new topsides, or old topsides were altered to fit them. Perhaps the most striking object on the lake was the great war-canoe "Taheretikitiki," lent by the Hon. Mr. Mahuta. It is about 84 ft. long, and had been entirely repaired and refitted by some Waikato Natives, who came down for that purpose. I went to Waihi, near Huntly, and had the canoe taken to pieces for transport by rail and steamer to Christchurch.

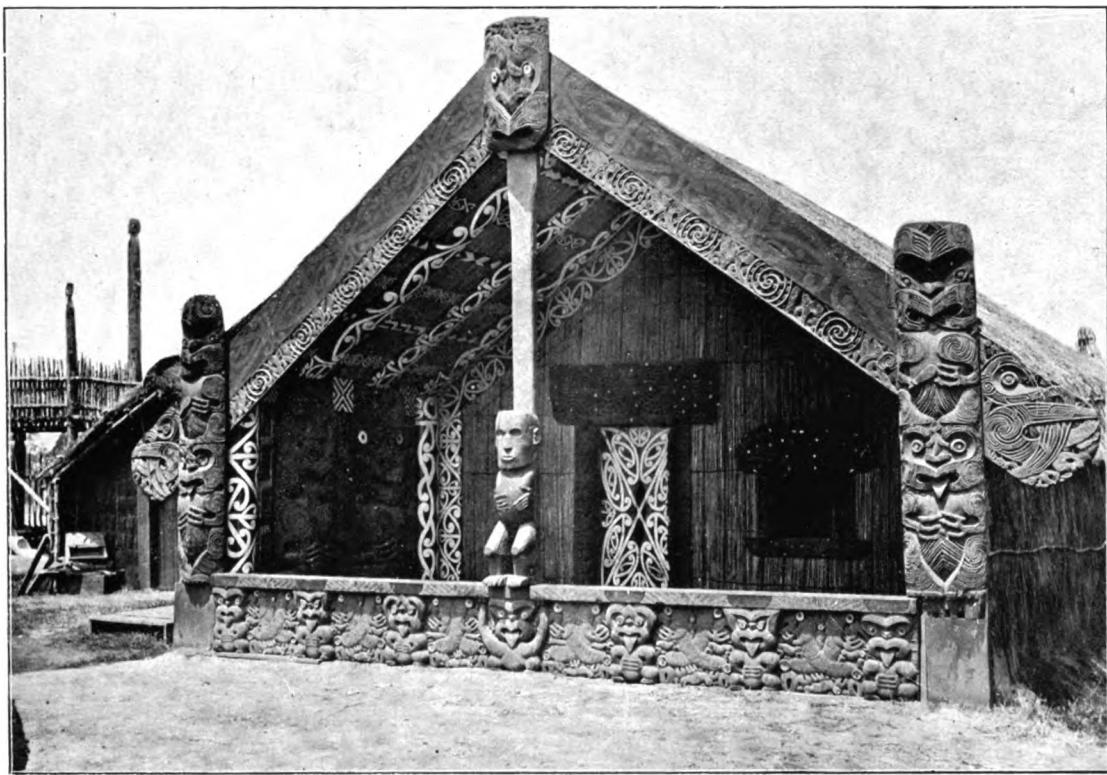
The general appearance of the *pa* suffered very much from the general flatness of the site. It would be more correct to call it a *kainga*, or village, than a *pa*, as a *pa* was usually on a hill or some natural stronghold. Not having defensive banks, this *pa* may be called a *pa tuwatawata*—that is, one where palisades only are used. The gate by which the visitors entered the lower *pa* was constructed by the Whanganuis, after consultation with the oldest and best-informed Natives of that district. The *pa* was surrounded by a defensive work consisting of stakes pointed at each end, and secured to bars so as to leave the spike at the bottom about a foot from the ground—this is called the *pekerangi*. It was placed about a foot or so in front of the next fence, which had the palisades imbedded in the ground, but sharply pointed at the top. Behind this again came a third fence, with the large posts carved into fearsome figures. All the timbers were secured by lashings of split supplejack, kept pliable by being placed in the lake or river until wanted.

Within the first enclosure or lower part of the *pa* was an open shed, or *wharau*, for the carvers, well exposed to the sun and light. In front of this was an imposing memorial such as would be erected to a deceased person of importance. It was a canoe planted in the ground for about a third of its length. The bottom had been carved, and painted with rafter-patterns. It was supported by two carved tree-trunks, and another piece of a canoe at the back formed a covering or box for the remains of the person commemorated. There was another memorial canoe of this kind at the back of the *marae*.

In the corner of the enclosure behind the carvers' shed was a stage called a *puhara* or *ahurewa*, for defensive purposes, approached by a Native stairway cut from a tree-trunk. There was another *puhara* at the side facing the lake, just above the canoe-gate. These stages were in time of war provided with heaps of stones and sheaves of spears, and were very useful as defences. Long thrusting-spears (*huata roroa*) were also used on these platforms. On the left-hand side of the enclosure was the great meeting-house or guest-house, with its elaborate carvings and decorations. Almost facing it was the pride of the village, the chief's store-house, profusely covered with carvings, and elevated from the ground on six carved posts. Close by was a group of ordinary houses, and the cooking-house with its open walls, stuffed with firewood neatly arranged after the fashion of the west coast people.

In the corner, near the defensive lines of the upper *pa* or *kainga* was the *heketua* (latrine) and the sacred *tuahu*, or tribal altar. A few steps away was the *waharoa* or *kuwaha*, or great gateway, carved from a huge slab of *totara*. The design was taken from a sketch by Major-General Robley of one of the gateways of the Maketu *Pa*, in the early sixties. The gateway was flanked by two carved posts and two slabs in high relief belonging to an old house.

To the right, across the flat grassy terrace used as a *marae* for the dances and *haka*, was a small *pataka* or storehouse for food or precious things, elevated on a tall tree-trunk, and, close by, half sunk in the ground, a small dwelling for the *tohunga* or priest, the roof of which was covered with the bark of the *totara*-pine.

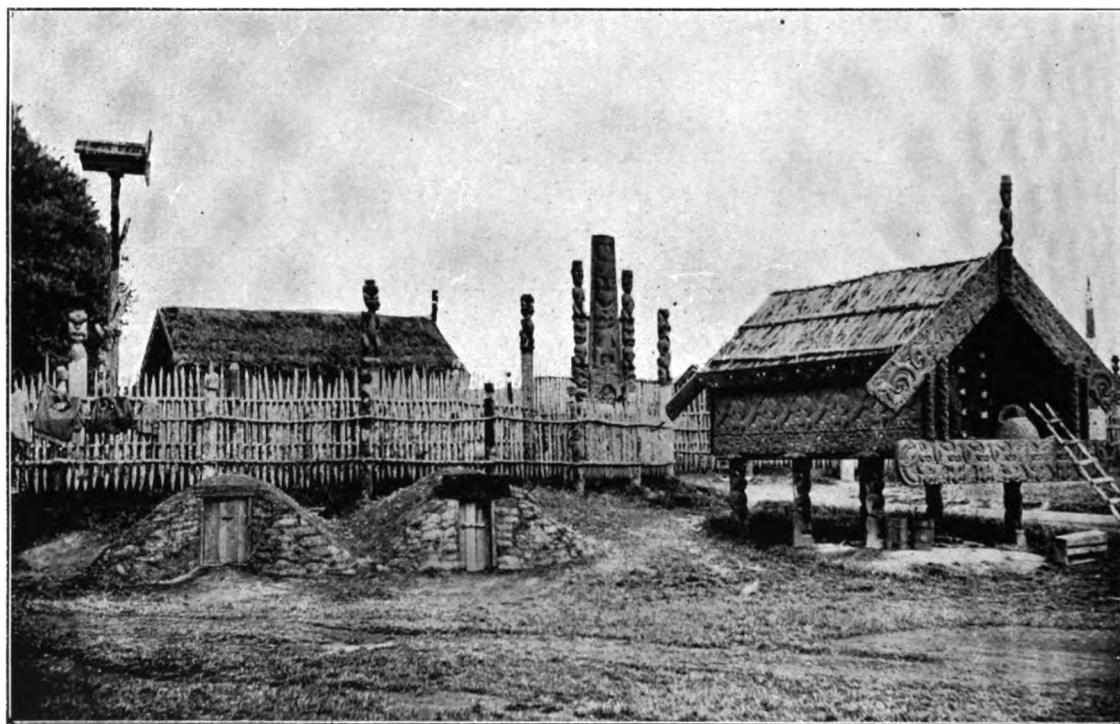


THE FRONT OF THE LARGE MEETING-HOUSE IN THE OUTER PA.

Near this were some more houses of the ordinary type. Crossing the carved *paepae* of the great gateway, and following either to the right or left the deflection of the inner fence called *ngutu* or *ahuriri*, made in this form for defensive purposes, a small but very beautiful house elaborately carved both inside and out was reached. The house had been lent by Mr. T. E. Donne. On one side of the house was another of the small elevated *pataka*, and on the other a food-storehouse or *whata*, and a cookhouse of a circular pattern, peculiar to the Upper Whanganui people. Under the trees, and cut off from the part of the village shown to visitors, was an area set apart for cooking, and containing stores for provisions. The upper village consisted of several groups of houses for sleeping and cooking and for provisions.

The committee made provision for modern requirements for the sanitation of the *pa* in the portion set aside under the trees, to which the public were not admitted—baths for the men and for the women, and washing-conveniences with stand-pipes. The water-supply was derived from the high-level tank near the Exhibition fernery, and from an artesian well sunk at the corner of the *pa* towards Riccarton. A pipe-drain was laid to convey waste and surplus water to the Avon. The Health Department placed Dr. P. Buck (Te Rangihiroa), a graduate of the Otago Medical School, New Zealand University, and Hori Pukehika, in charge of the general sanitary arrangements.

In the corner of the upper enclosure was a three-storied watch-tower, from



TWO SMALL RUAS, OR STORE-PITS, FOR ROOT CROPS.

which in time of war the watchman (*kai-mataara*) would chant his watch-songs (*whakaaraara pa*) and, if necessary, give the alarm and sound the war-gong, or *pahu*.

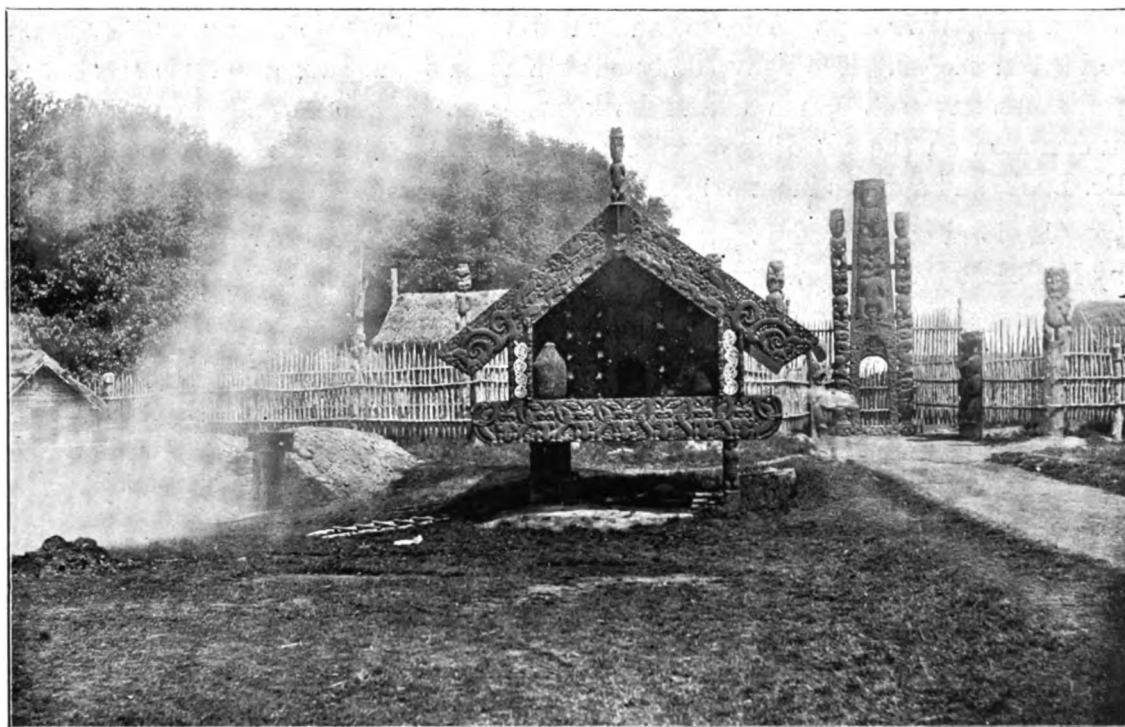
By the cookhouses were *ruas*, or underground storehouses for roots, and a few ovens lined with stones for cooking in the old Native fashion. When the post-holes for the inner line of fencing of the upper *pa* were being dug, some large Maori ovens were unearthed at a depth of 18 in. or 2 ft., indicating that the spot had been the site of a Maori camp in former times.

A glance within the food-stores would show piles of preserved mutton-birds from Stewart Island, *kumara*, samples of fern-root as used in the old days when it was the staple food, and other articles of food now rarely seen. Hanging in the

cookhouses were dried eels, dried shark, eel-pots, and various *ketes* (baskets, &c.) and domestic gear.

In a small cultivation in a sheltered portion of the upper *pa* a considerable number of *taro* (*Colocasia antiquorum*) were grown, and, although they hardly reached maturity, produced some very large ornamental leaves.

Owing to the proximity of the Victoria Lake to the *pa* there was good opportunity for the display of the various classes of canoe used by the Maori, from the stately, decorated fighting-canoe, *waka-taua*, to the little *kopapa* or *mokihi*. About half a dozen specimens were brought down from the North Island for the Exhibition.



THE LARGE STOREHOUSE AND THE WAHAROA OR PRINCIPAL GATEWAY.

His Excellency paid an official visit to the *pa*, and was received with honours due to such a distinguished visitor. Speeches of welcome were made.

First uprose the venerable chief Mahutu (a relative of the late King Tawhiao, whom he strikingly resembles), and he delivered himself as follows : " Welcome, O Governor ! welcome. Through you we, your people, are assembled here, and in coming bring love and welcome. Long life, Governor, oh, long life to you ! "

Neke, the famous Arawa carver, said, " Welcome, O Governor ! welcome. Through you our works of ancient times have been brought here, so that the peoples of the earth may know that the Maori is still living. May you live for ever, and may the Lord keep you and your wife in His care ! "

Hori Pukehika, of Whanganui, said, "Welcome, O Governor! and welcome, Lady Plunket, and all who have come with you. Welcome to the bright star that has come over the sea to bring light to the Maori people. By the goodness of our friend (Mr. Seddon) who has departed, we have been sent across the sea to this strange Island, so that the works of our ancestors may be revived. We are both strangers to the works of our ancestors, because they have been gone from us so long. But they stand again. Long life and prosperity, O Governor! to you and to your wife."

His Excellency replied to the above welcome, his speech being received with manifestations of the utmost delight and gratification.

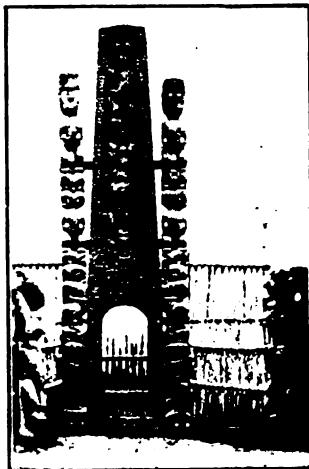
During the time that the *pa* was in existence, large parties of Natives from Whanganui, Wairarapa, Rotorua, and the Bay of Plenty were brought down and resided in the *pa*. They gave daily entertainments and carried on their ordinary work, making cloaks, mats, and baskets, preparing food, &c. Some valuable information on the art of mat-making was obtained from some of the visitors by Dr. Buck, and appears in an article in this Bulletin.

The local committee paid great attention to the affairs of the *pa*, ably directed by Mr. Bishop, their Chairman, and carried everything to a successful conclusion.



## THE MAORI PA: SCENES OF ANCIENT MAORIDOM.\*

[By JAMES COWAN.]



WHILE primarily illustrating the material progress of New Zealand since it was first redeemed from barbarism by the white man, the Exhibition scheme also made provision for a section without which no exposition of human endeavour, arts, and education is complete—the ethnological side. An attempt was made to emulate what America did so well at the St. Louis Exposition in 1904—to organize a gathering of aboriginal peoples living in the country and those having racial affinities with them and who lived under the same flag; to show them, moreover, in surroundings approximating to their olden conditions of life, and to revive something of their ancient social customs, their handicrafts, and their amusements.

It was recognized that not only would this from a mere business point of view prove a desirable adjunct to the Exhibition and provide a source of novel entertainment to visitors, but it would also have its scientific aspect, and its value for those whose interest lies in the observation and recording of linguistics, primitive customs, and folk-lore. It was a seasonable reminder that “the proper study of mankind is man.”

This sectional division of the Exposition consisted in a congress of the great Native races of the South Pacific, the Maoris of New Zealand, their kinsmen the Polynesian-Islanders who inhabit the Cook Group and a thousand other islands and atolls in the great South Seas, and the people of Fiji, who form the connecting-link between the brown-skinned, straight-haired Polynesians in the East and the woolly-headed negroid Melanesians in the Western Pacific. Physically and mentally, no finer savage race existed than the Maoris who peopled this country when the white man found it; and from the wonderful times of the Spanish navigators, Mendana and Fernando Quiros, down to the day Robert Louis Stevenson made his first landfall in his little white schooner in the charmed palm-lands of the Pacific, explorers and writers beyond number have been captivated by the handsome, brown-skinned, dark-eyed, song-loving men and women of the Polynesian Islands. The Fijians, too, have fame and many chroniclers: they were once the most ferocious

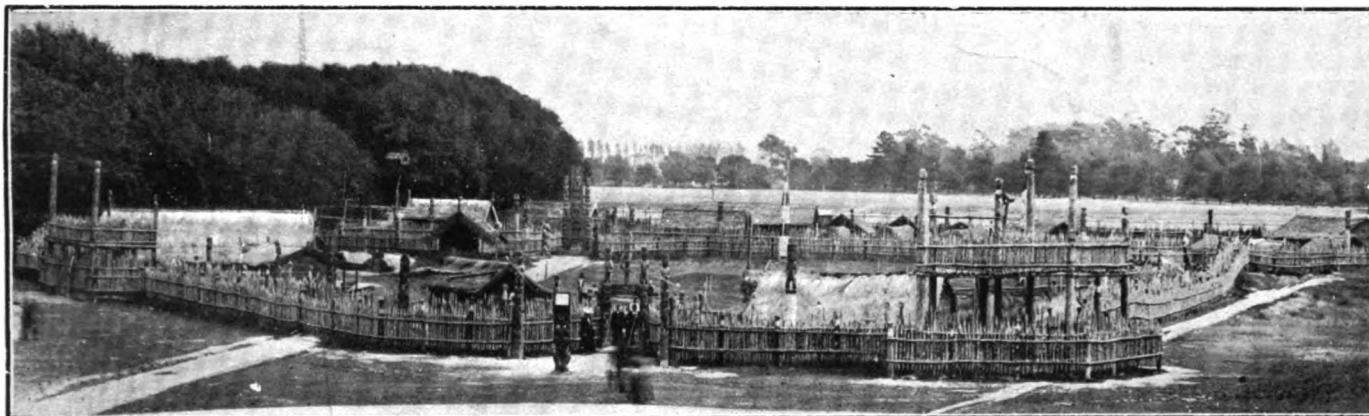
\* This article by Mr. James Cowan appeared in the official History of the New Zealand Exhibition, and is reproduced by permission of the New Zealand Government.

cious type of the anthropophagi in the Pacific ; to-day they are a dwindling race despite their olden warlike virility, and the imported Hindoo coolie is usurping their place in their beautiful mountain-islands.

It was a unique congress of the dark-skinned tribes. From the Maori's Hawaiki of tradition, the South Sea Fatherland, his long-severed "elder brothers," as he calls them, were brought to greet him face to face ; they chanted their poetic *mihi* of greeting to each other, and they fraternized as long-lost but reunited members of the same great family. The Maori had less in common with the Fijian than with the Rarotongan ; few Maoris had ever seen a Fiji-Islander before, but many a Cook-Islander had visited Auckland and other northern parts of the colony in days past, and there was a knowledge of kinship born of a common lineage and a common root-tongue. But, while wondering at the strange appearance and singular folk-ways and ancient rites of the Fijians, the Maori also admired unreservedly his fine physique, his agility, and his remarkably picturesque costumes. It was a mind-broadener indeed for all three insular peoples. And it aroused all their high national spirit too ; in each other's presence their racial dignity, their pride of blood, showed out to the full. Gathered on a common *marae*, they danced and sang their best, and their speeches were models of punctilious ceremony and grave courtesy. There were some difficulties in the way of carrying on direct conversations, for the Maoris and Fijians in their mutual speech-making required two white interpreters ; and even the Maoris and Rarotongans, closely allied as their languages are, required the assistance of interpreters in the delivery of formal addresses, though they soon mastered dialectical differences sufficiently to be able to roughly compare notes as to ancestral traditions. For the dignified Fijian leaders the Maoris had a curious respect : they looked on them as *rangatiras* from one of the remote Hawaikis of the ocean-roving Polynesian ; the place-name of Viti, or Whiti, or Hiti, which in some cases refers to Tahiti, but in others most probably to Fiji, occurs in many a Maori and Rarotongan song. Then there was the little band of men and women from isolated Niue, or Savage Island (so called by Captain Cook because of the fierce and threatening demeanour of its wild inhabitants), an islet of upheaved coral far out in the great blue spaces of the Pacific, delegates from an interesting and now civilized people who number more than the population of any other island in the roll of New Zealand's South Sea possessions, and who form a racial connecting-link between the Cook-Islanders and Tahitians on the one hand and the Tongans on the other. They were from the three "Hawaikis" under the British flag in the Pacific, these Cook Islands and Niue and Fiji men ; and the magnitude and the marvels of the Exhibition impressed them beyond words with the strength and godlike knowledge of the white race.

Spectacularly, the Maori element was the one of predominating interest not only because of the superior numbers of this race, but also because of the highly picturesque stockaded village in which its members had their temporary homes.

Numerous tribes of Maoris sent their delegates to the Exhibition ; in all, some five hundred Natives spent periods of varying duration in the camp. The visiting South-Sea-Islanders totalled over eighty, of whom fifty-two were Fijians. These Fijian Natives included a party of the fire-walkers from the island of Benga, celebrated from very remote times for the singular proficiency of one of its tribes in the ancient semi-religious rite of the *vilavila-i-revo*, or, as it is called in the Polynesian Islands to the eastward, *umu-ti*. The Natives from the South Pacific islands under New Zealand jurisdiction—the Cook Group and Niue—numbered about thirty ; their visits had been arranged by the Government Commissioners in those islands, who also arranged for excellent displays of Native antiquities, utensils, and articles of manufacture shown in a special court, "The Cook Islands," in the Exhibition Building. The far-northern coral islands under the Dominion's rule, the atolls or "ring-islands" Manihiki, Penrhyn, and Raka



THE MAORI PA IN THE EXHIBITION GROUNDS.

hangā—celebrated for their pearl-fisheries—were not able to send representatives, but beautiful specimens of their canoes and other examples of their arts and productions were shown in the court.

**THE MAORI PA.—A STOCKADED VILLAGE OF THE OLDEN TIME.—SCENES OF ANCIENT MAORIDOM REVIVED.**

Bristling with palisades, with strange carved figures perched like sentries on its walls, with watch-towers and all the other appurtenances of a fortified hold, and presenting within its gates bright and pretty scenes of semi-primitive Maori life, the "Arai-te-uru" Pa in the Exhibition grounds attracted a great amount of attention during the currency of the Exhibition. It was a happy idea that gave birth to this reproduction on a scale of some magnitude of a complete Maori village, such as those which existed in this land when Captain Cook first sailed past our

unknown shores. Very many New-Zealanders even have but a vague idea of the Maori as he was, and to those, as well as to visitors from oversea, the replica of an old New Zealand village was distinctly educative, and served to emphasize the fact that the brave race whom the white man has supplanted were no mere forest-roving savages, but had attained a high degree of skill in many handicrafts, and in decorative art certainly had evolved some most beautiful designs which even the cultured *pakeha* cannot but regard with admiration. Hardly a detail of life, of buildings, of ornamentation in the Maori *pa* and *kainga* of the past had been overlooked by the designers of the present *pa*, and the result was distinctly creditable to Mr. H. W. Bishop and his Maori committee, to Mr. A. Hamilton (the author of the monograph "Maori Art," and Director of the Dominion Museum in Wellington), who was intrusted by the Government with the construction of the *pa*, and to Mr. Gregor McGregor (second in command, a gentleman well acquainted with the Maoris and their language and customs) and his company of Maori carvers



THE MAORI STOCKADED VILLAGE, FROM THE VICTORIA LAKE.

and *pa*-builders. The name "Arai-te-uru," bestowed upon the *pa* by the Hon. J. Carroll, Native Minister, appropriately memorized a famous Polynesian sailing-canoe, in which some of the ancestors of the southern Maori tribes arrived on these shores from the tropic isles of Hawaiki. The Arai-te-uru canoe, according to tradition, was wrecked near Moeraki, on the North Otago coast—where she may still be seen, with the eye of faith, in the form of a submerged canoe, turned to stone, close by Matakaea Point. Another name, however, which might very fittingly have been given to the model *pa* was "Maahunui," that of the canoe in which the immortal Maui—the discoverer or "fisher-up" of the North Island—voyaged to these shores from the South Seas; a name revered by the present-day Ngai Tahu chiefs, who can trace their genealogies back to Maui through a thousand years of time. Yet another name which suggested itself as an exceedingly appropriate one is "Otakaro," the original Native name of the Lower Avon and the site of the City of Christchurch. Otakaro—the "Place of Takaro"—was named so after an old-time Ngai Tahu chief (as was Otautahi, the old Maori ford near where the Victoria Bridge

crosses the Avon); but it also by a noteworthy coincidence means, literally interpreted, "The Place of Games," or "The Home of Amusement." This suggests itself as a distinct improvement on the by no means euphonious "Hagley Park." Why not "Otakaro Park"?

The Maori *pa*, with its circumvallation of palisading and trenching, covered an area of about three acres, stretching back from the western end of the Victoria Lakelet, in the left rear of the Exhibition Buildings, to the burgeoning oak groves. The visitor approaching from the main Exhibition Building saw before him, stretching up along a very gentle rise from the glancing waters of the lakelet, a double war-fence, enclosing a roughly rectangular space of ground, and topped every few yards by knobby-headed posts and huge carved effigies grinning defiance at him with their great saucer eyes and lolling tongues. At the angles of the fence, and projecting over them, were tower-like structures, guarding the approaches; within the fence here and there were tall posts on which singular little storehouses like dovecots were perched; an upended canoe, brightly painted and carved, its lower part sunk in the ground, stood high above the stockade. Within there were glimpses of reed-thatched houses and red-painted carvings and wooden effigies, some grasping weapons of the

Maori, all with their shell-made eyes glaring fiercely outwards over the walls—a "gorgon-eyed and grinning demonry." Smoke curled up in the inner *pa* from the women's cooking-ovens—the stone-heated *hangi*. The sound of song and dance was in the air, the chatter of a little Maori community, the lilt of the *poi*-girls at their rehearsals, the men at their *hakas*; a scene instinct with challenge to the imagination of the stranger. And, passing the scornful visage of the carven Janus who kept guard over the bridged trench and the gateway of the *pa*, one was introduced to a little Maori town, a scene full of semi-barbaric life and colour, all of the olden time. The *pa* consisted of two sections or divisions—the outer and the inner *pa*—defended by successive lines of intrenchment. The outer or lower division fronted the lake, where the canoes lay at their moorings. Here, too, was one of the grounds for the performance of the poetic *poi* and the martial *haka* and *peruperu*—the leaping parades. The ground rose slightly as the inner village was approached, and formed a natural grassy stage for the dancing-parties.

Unfortunately the configuration of the ground did not lend itself well to the laying-out of the best and most striking type of the Maori *pa*—the hill-fort. With the ground almost level, it was, of course, impossible to construct a bold scarped

2\*



and terraced fort, of which such splendid examples are to be seen by the thousand in the North Island—the ancient *pa-maioro* of the Maori. The engineers and architects of the *pa* were therefore forced, as an ancient Maori *pa*-builder would have been under similar circumstances, to adapt the pattern of village to the lay of the country. Accordingly it was modelled much on the lines of a waterside *pa*, such as—to instance a celebrated prototype—the great *pa* Waitahanui, once occupied by Te



GENERAL VIEW OF THE INTERIOR OF THE PA, SHOWING ON THE RIGHT A DECORATED CANOE-HULL STUCK IN THE GROUND AS A MEMORIAL TO A CHIEF.

Heuheu and his tribe, on the shores of Lake Taupo, which was sketched by Angas in 1844. With the ground and the material at their disposal, Mr. Hamilton and Mr. McGregor did their best to reproduce the olden Maori *pa*, a combination of fishing-village, waterside stockade, and trenched residential town, with its living-houses of various types, its carved and decorated houses for ceremonial purposes, its store-

houses and platforms for food, its canoe-fleet, and all the furniture of the true Maori *kainga*.

The defences of the outer village consisted of a strong double fence and a ditch. The outer, technically known as the *pekerangi*, was the *chevaux-de-frise* of the *pa*, a line of sharp stakes—sharp at both ends, with stout posts at intervals of every three or four yards. The posts were sunk in the ground, but the stakes, connected and held in position by cross-rails, only reached to within a foot or so of the earth. Their pointed tops were some 7 ft.

from the ground. The *wawa* or *tuwatawata* was the second and stouter stockade. This was about 8 ft. high, and all its timbers were sunk in the ground. There were interstices in the fence for the defending spearmen. In ancient days the defenders of a village, standing in the trench, thrust their long sharp wooden spears (*tao*) through the interstices and through or underneath the outer hanging fence at the attacking warriors. When the Maoris obtained firearms and constructed their *pas* to suit the altered conditions of warfare, they retained this feature of their olden forts: standing or crouching in the trench they thrust the muzzles of their guns through the spaces in the main fence and fired beneath the *pekerangi*, being thus able to sweep the *glacis* of the *pa* with their fire in perfect safety to themselves. The trench was about 4 ft. deep and 3 ft. wide. Every few yards there was a larger post than the saplings and rickers that chiefly composed the main fence; these posts were the *tumu* or *kahia*; their tops, 8 ft. or 9 ft. above the ground, were roughly notched and rounded, in imitation of human heads impaled on the spiked palisade—a gentle custom alike of the Maori and our own Anglo-Saxon-Celtic forefathers. Every 12 ft. or so around the stockade the



MR. A. HAMILTON (DIRECTOR OF THE DOMINION MUSEUM), IN CHARGE OF THE MAORI PA.

*wawa* was adorned with sculptured wooden figures, mounting guard round the fortress-walls like a company of savage *toas*. These figures were elaborately carved and often tattooed—in fact, the profuse and splendid carving was the great feature of the *pa*. All varieties of effigies were there ; some lolling their huge heads on one side, with an exaggerated expression of pain that was most laughable, as if they were regretting overindulgence in some feast of “long-pig” ; others rigid and upright, glaring balefully outwards, their faces scrolled with lines of *moko*, their lower parts blue-chased with the *rape* and *tiki-hope* patterns of tattoo ; their hands gripping tongue-pointed *taiaha* or battle-axe-like *tewhatewha*.

Criticizing the construction of the *pa* from a technical viewpoint, its chief defects, as compared with fortified towns of olden days, were that the stockade timbers were not massive enough or high enough, and were not close-enough together. The palisading consisted almost entirely of *tawai*, or beech timber, obtained from the Oxford bush, and in this respect the *pa*-builders worked at a disadvantage. Properly, the main palisades should have been of *totara* or *tawa* timber, of much larger size and more irregular than the rickers which had to be used in the “Araite-uru” defences.

In the protected villages of ancient Maoridom and in the forest-stockades built for defence against the white troops by the Maoris (the Ngapuhi and the Taranaki Tribes in particular) in the wars from 1845 up to 1869, the palisades



MR. G. MCGREGOR, OF WANGANUI,  
MR. HAMILTON'S SECOND IN COM-  
MAND IN THE MAORI PA.



AT THE MAIN ENTRANCE TO THE PA.

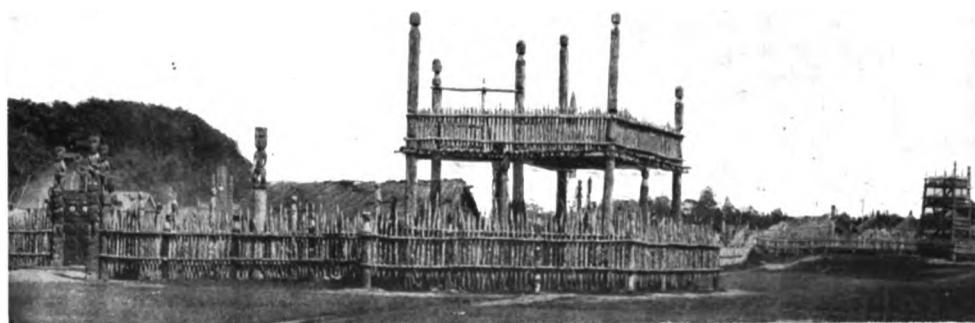
were of great strength. Good-sized *totara* or *tawa* trees, the bigger ones split in two or three, would wherever possible be used for the stockade ; also, the war-fences often stood more than twice the height of a tall man above the ground. So that

visitors to "Arai-te-uru," by imagining a huge stockade double the height of the outer fence, would have been able to form a good idea of the towering palisade-lines which the Maori communes of other days erected with such enormous toil and incredible energy around their hill-top or water-side hamlets.

In some respects there was a certain unavoidable suggestion of modernity, but, taken all in all, the *pa* was a faithful attempt at the revival of villages of other days. The main entrance was a fine bit of carving and primitive fort-building work. It was constructed by Hori Pukehika and his Whanganui men, after ancient patterns of *kuwaha* or "mouths" of stockaded villages. It was flanked and surmounted by large figures in human presentment, and by solid carven posts. The ditch was crossed by a drawbridge—a solid grooved and carved slab which worked on a pivot: when drawn up it formed the gate; when lowered by its ropes across the ditch it was the road of entrance. Entering the lower village-green, the visitor noticed on his right the wide angle-tower—*puhara* or *taumaihi*—with its breastwork and flooring of saplings, like a balcony, commanding the north-east corner of the *pa* and projecting outwards over the stockade. This *puhara* was probably somewhat wider in proportion than those erected on old-time *pas*, but in its general mode of construction and in its means of access—an inclined massive pine log (*rimu*), with deeply notched steps—it followed the customary lines. On these lookout places the sentries of old were posted, and spears were cast, and the enemy annoyed in a variety of other ways such as the heart of the Maori devised. This tower was about 20 ft. above the ground. Above the canoe-gate, on the lake side of the *pa*, there was another protective work of a similar character. The north-west angle of the *pa*, on the higher ground at the other end of the village,



A MAORI  
MEMORIAL  
IN THE  
*PA*.\*



THE PUHARA, OR ANGLE TOWER.

was surmounted by a *puhara* of different and more striking character. It was a taller and narrower structure, with three stories or successive platforms, and rose about 30 ft. above the ground. This watch-tower, built of rough timbers with

\* A canoe was often set up on end and decorated as this one is, in memory of a dead chief.

head-notched posts, and of *tawai* saplings and rickers, was constructed much on the lines of a *puhara* sketched by the late Charles Heaphy when at the Chatham Islands over sixty years ago, constructed by the Ngatimutunga Tribe (a section of the Ngatiawa of Taranaki), who literally "ate out" the peaceful Moriori, the aborigines of the Chathams. Here, on the topmost stage of the ancient Maori watch-tower, hung the war-gong, the *pahu*—carved in inverted-canoe shape out of



A GROUP ON THE CENTRAL MARAE.

a block of *matai* wood. In the model *pa*, too, as in other days, the loud cry of the *whakaaraara-pa*—the "fort-awakening" call—was on occasions raised, when mimic fights engaged the Maori occupants.

#### THE ART OF THE WOOD-CARVERS.

Facing the village-green in the lower *pa* stood a good example of the Maori *whare-whakairo* or carved house. This building was the largest structure in the little lakeside village, which its Arawa inhabitants christened "Ohinemutu," after

their home amongst the spurting geysers and warm simmering *wai-ariki* in their far-off Rotorua homeland. Most of its carved timbers and slabs came from the Rotorua district. Two great side-slabs (*pou*) in the porch, carved in unusually high relief, and measuring about 8 ft. by 3 ft., with huge staring eyes and colossal mouths, formerly stood on a sacred burial-ground at Ruato, Lake Rotoiti ; they were carved by Neke Kapua, the chief carver in Arai-te-uru Pa. The house itself measured 40 ft. in length by 20 ft. in width ; its finest features were its deep and decorated porch and its richly carved side-slabs. The figure at the foot of the *pou-toko-manawa*, or central house-pillar—before which burns the house-fire — was the presentment of a deified ancestor. It was obtained in the Taranaki district. The principal carved pieces in a decorated Maori *whare* such as this are the *tekoteko* (the figure-head which adorns the front of the house above the porch), the *maihi* (front barge-boards), the *pare* (richly carved ornament above the



MAORI WARRIORS AT THE FOOT OF A PUHARA OR WATCH-TOWER.



AN ARAWA WAR PARTY.

doorway), the *waewae* ("legs" on each side of the door), and the *pou-toko-manawa*. Besides these slabs and posts the whole of this house-interior was walled with alternate carved figures and neatly worked lattice-patterns in laced laths and reeds. The massive ridge-pole (*tahu*) was gaily painted in arabesque patterns, and the rafters were similarly decorated ; the colour-effect was bright and eye-pleasing. The figure at the foot of the house-pillar was beautifully carved in relief, with carefully tattooed features.



The Maori artist went to natural objects for most of his intricate patterns. The graceful volutes and double spirals termed *pitau*, like elaborated rope-coils, which ordinarily ornament the ends of barge-boards, the prows of war-canoes, and the doorway-*pares*, have their origin, some Natives say, in the tender, just-unfolding bud-fronds (*pitau*) of the arborescent fern (*korau*) ; others see in them a copy of the daintily curled clouds which we call cirrus. The curious flutings and wave-like markings on many New Zealand cliffs—for instance the great white nature-carved cliffs at Kaokaoroa, Bay of Plenty—are pointed to by some of the Arawa Maoris as the source and inspiration of the *pitau* and other carving-patterns. And an Arawa carver in the camp upturns his hand and says, “Look at the lines on my



THE LARGE CARVED HOUSE IN THE OUTER PA.

thumb, observe their curves and circles—from them my ancestors perchance took their scrolled carvings. Yet again, behold the web of the spider (*whare-pungawere-were*), how it resembles the *pitau*.” The *pitau*, however, may be a mystic symbol, of origin far remote and significance long forgotten. We have, perhaps, to go to Egypt, to India, to the birthplace of the nations, for the source of some of these remarkable concepts of the Native race. In far-severed countries there are suggestions of these same designs and decorative emblems, notably the snake-rings of the *pitau*.

On Aztec ruins grey and lone  
The circling serpent coils in stone,  
Type of the endless and unknown.

The Indians of Alaska carve their totem-poles in striking likeness to the Maoris' tall *tiki*-posts. The wide gaze into space of some of the Maori carved figures on the *pa*-stockade was quite Egyptian and Sphinx-like in its fixed impassiveness. Even in tattooing we find the chins of the Arab and Nubian women decorated somewhat after the fashion of the Maori women. The *rape* spiral tattooing on the body of the New-Zealander, as depicted on some of the carved posts—the warrior's special adornment—has its counterpart, according to an African traveller's sketch, amongst a people on the waters of the Upper Nile.

The rafter-paintings in the large *whare* were characterized by much artistic grace. The *mango-pare* (hammer-headed shark) was a favourite pattern; another conventional device was inspired by the beautiful drooping flowers of the golden *kowhai*. The wall-plates were painted in other tasteful patterns, chiefly the *taniko*, the pretty geometrical designs used in the borders of the best Maori flax cloaks.

Another splendid specimen of the carver's art in the outer *kainga* was the large *pataka* or food-store, a structure raised on wooden legs or pillars several feet above the ground. It was most completely and richly worked, and represented probably the highest development of the Maori wood-carver's art. In a *pataka* such as this, in the olden times, were kept the more valuable food-supplies, such as potted birds (*manu-huahua*)—pigeons, *tui*, &c.—preserved in their own fat and sealed up in calabashes and bark baskets. The *pataka* was often the best-carved and most highly prized building in the settlement. This particular storehouse was carved by Neke Kapua and his sons, from Lake Rotoiti. They took as their pattern the ornamentation on some very fine old stone-adze-carved slabs which were found buried in a cave on the east coast of the North Island some years ago. The most remarkable feature of the decorative scheme of this *pataka* was the constantly recurring figure of that strange fabulous creature the *manaia*, which combines the complicated coils and curves of a saurian or seahorse-like being with the head and beak of a monstrous uncanny bird. The idea reproduced here was from beyond the seas—its origin is lost in the gloom of the untold centuries which have passed since the Maori's forefathers set sail from Asiatic shores into the unknown Rawhiti—the Place of the Sun-rising.

A singular little *whare* in the far corner of the outer *marae* aroused some curiosity among the visitors. This was intended to represent the *tohunga's* *whare*—the hut of the tribal priest and "medicine-man." Being *tapu*, the *tohunga*



A REAR VIEW OF THE PATAKA.

was supposed to live by himself in this semi-subterranean dwelling, its front adorned with carved side-slabs and grinning *tekoteko*, its roof covered with *totara*-bark, its sides heaped up with earth after the fashion of the old-type Urewera village homes. The real *tohunga* of the *pa*, however, preferred a more comfortable dwelling.

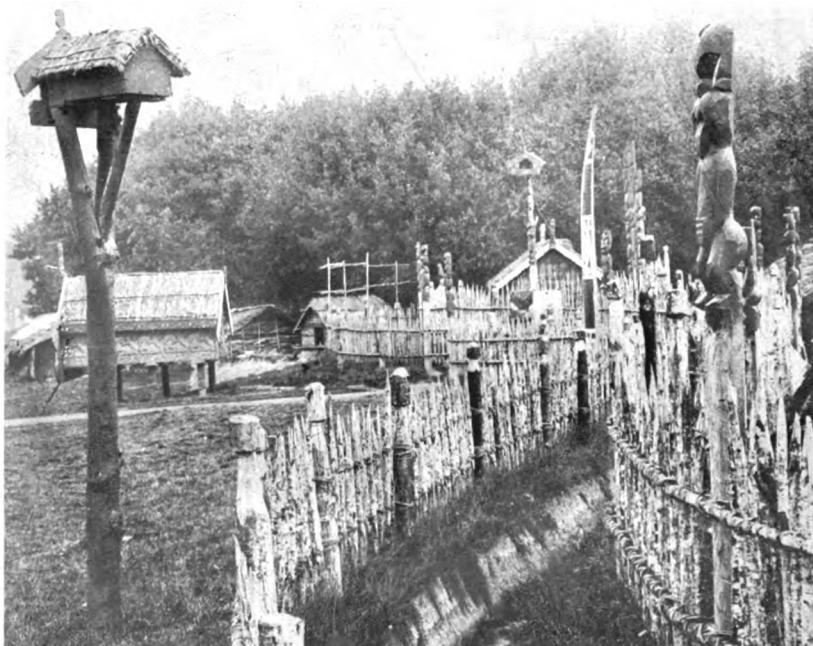


A CARVER AT WORK.

The medicine-man of "Arai-te-uru" was a clever young doctor of Maori birth but *pakeha* education—Dr. Peter Buck, whose hereditary Maori name is Te Rangihiroa. Te Rangihiroa, who is one of the New Zealand Government medical officers in charge of Native districts, resided in the *pa* during the whole term of the Exhibition, not only supervising its sanitation and attending to its sick, but also taking an energetic share in the picturesque dances of the visiting tribes, and stripping to a waist-mat for the exciting *haka* and the thrilling *perupero*.

#### THE HEART OF THE KAINGA.

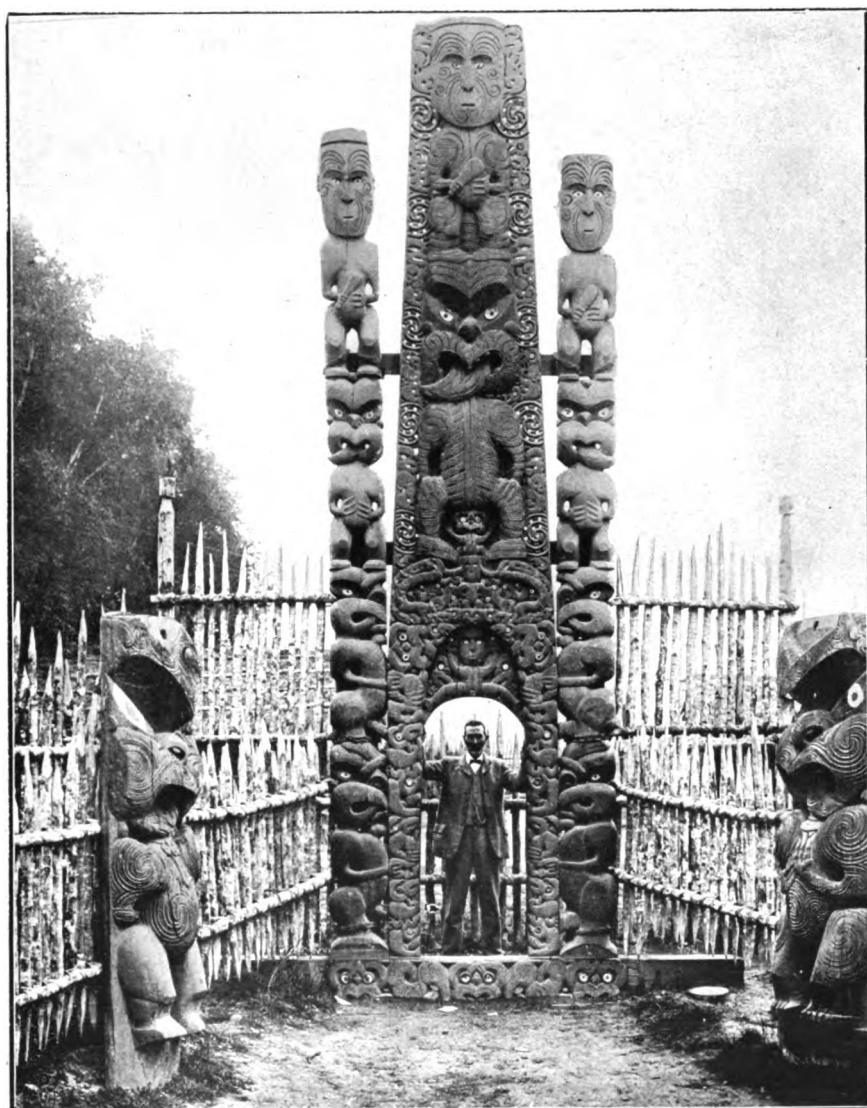
Now the inner *pa*, the chief residential section of the village, was entered. It was defended by a double palisade, similar to the main line of the outer fence, with its tall carved figures or *kahia* and its knobby *tumu* posts. Between the two *tawai-sapling* fences was a trench for the spearsmen defending this citadel of the *pa*. The gate was a particularly massive and beautiful piece of carving, the triumph of the woodworker's art. It was cut out of a huge solid slab of *totara* timber, brought from the centre of the North Island—a magnificent slab 22 ft. long, over 4 ft. wide, and 6 in. thick. Neke Kapua and his sons carved it in Wellington, taking as their *tauira* or



DOUBLE STOCKADE AND DITCH ENCLOSING THE INNER PA.

pattern to a large extent a great *waharoa*, or fort-gate, which formed one of the entrances to the Maketu Pa, Bay of Plenty, forty years ago, and which is the subject of a water-colour sketch by Major-General Robley now in the Dominion Museum. The arched gateway was flanked by tall side-posts, each more than twice the height of a man, with rich relief carvings of the mysterious *manaiā*, to which reference has already been made.

The entrance to the *pa*, the gateway passed, was "blinded" by a protective parapet or *parepare*, which compelled the enemy or the visitor to diverge to right



THE CARVED GATEWAY OF THE INNER PA.

or left. Then the *whares* were seen, more than a score of them, illustrative of all the different kinds of dwellings constructed by the Maori, grouped neatly round the central *marae* or square. Just on the left stood a tall *tawai*-tree trunk with its branches lopped off, and a little red-painted carved *pataka* perched on its top, 25 ft. above the ground. A quaint touch of modernity amidst the surrounding images and habitations of olden Maoridom was the telephone-wire attached to this *whata*, in appearance like a dovecot. This *whata* was supposed to be the primitive "safe" in which the chief of the *pa*, dwelling in the adjacent carved house, kept his choicest food-stores; and an ugly little carved red-painted demon kept guard at the tree-butt. Aloft the insulators of the electric line glittered against the haematite coat of the tiny *whata*, and in front of the *whata*-tree was the business office of the *pa*, a



THE BUSINESS OFFICE IN THE INNER PA.

*whare* built in Maori style, and decorated with gay gable-paintings after the Native artists' rafter-patterns; Maori *tekoteko* without, and *pakeha* telephone within.

Hard by, under the shade of the beautiful spreading oaks, stood a small carved house, which was given the name of "Te Wharepuni-a-Maui"—Maui's Dwelling. Although smaller than the *whare-whakairo* in the outer *pa*, it was a more perfect specimen of the Maori house. This carved *wharepuni*—quite a pretty little Maori dwelling, all under its shady trees—is the property of Mr. T. E. Donne, General Manager of the Government Tourist Department, and was lent by him for exhibition in the *pa*. It was about 20 ft. in length by 12 ft. in width. The side-slabs or *amo-maihi*, were particularly well-carved figures, one representing an ancestral chief, the other a chieftainess with the ancient patterns of tattoo and feather-decked

head. The *paepaepoto* or threshold was a massive slab, richly carved ; above was the usual carved *tekoteko*, a finial face or mask, tattooed in exactest imitation of a chief's *moko*. Within, the house was bright with painted rafters and carved and shell - inlaid figures. The carved slabs represented historic ancestors and mythic heroes of the race. Here was figured Maui, the Wizard Fisherman, hauling up his great Land-Fish —the North Island of New Zealand; Tama-te-Kapua, ancestral chief of the Arawas, with his stilts (*poutoti*), with which he walked to disguise his tracks when robbing old Uenuku the priest's breadfruit-tree in Hawaiki. Maui, again, slain by the Great Goddess of Night (*i.e.*, Death), Hinenuite-Po, just as he was in the act of entering her to snatch the secret of eternal life—painted lively as the deed was done. Whakaotirangi, too, the chieftainess who brought the *kumara*, the sweet potato, to these shores from the isles of Polynesia, her little *kumara*-basket in her hand. Most curious of all the carvings in this *whare* was that on the sliding window. It represented, after the concept of the Maori artist, the famous beauty Hinemoa swimming across Lake Rotorua to her lover on Mokoia Island. There she was with her two *taha* or calabash floats before her ; behind her, on what you must understand was the rocky shore at Owhata Village, from which she set out on her love-led swim, was spread her square woven mat—there was no possible doubt about it ; and, quite fittingly, there in front of her,



WOMEN WITH POI BALLS, STANDING IN FRONT OF A COOKING-SHED. THE SPLIT FIREWOOD IS PLACED BETWEEN THE UPRIGHTS THAT FORM THE WALL.

on the sliding door of the house, stood Tutanekai, her lover, tattooed and beautified in the best Maori style, and playing on the flute on which he breathed his serenade to the Maid of Owhata.

The ordinary residential houses and huts facing inwards on the village square included the long *wharau* of the Whanganuis, with its verandah or *mahau*, and other types of dwellings, built of sapling frames and covered with *wiwi* (rushes) in lieu of the usual *raupo* for walls and roof-thatch—*raupo* is very scarce in this part of the country. The two large cook-houses were of interest, as having been brought almost complete from villages on the banks of the Whanganui River. A very curious little *whare* was one circular in shape, strange to the eyes of even New-Zealanders. It



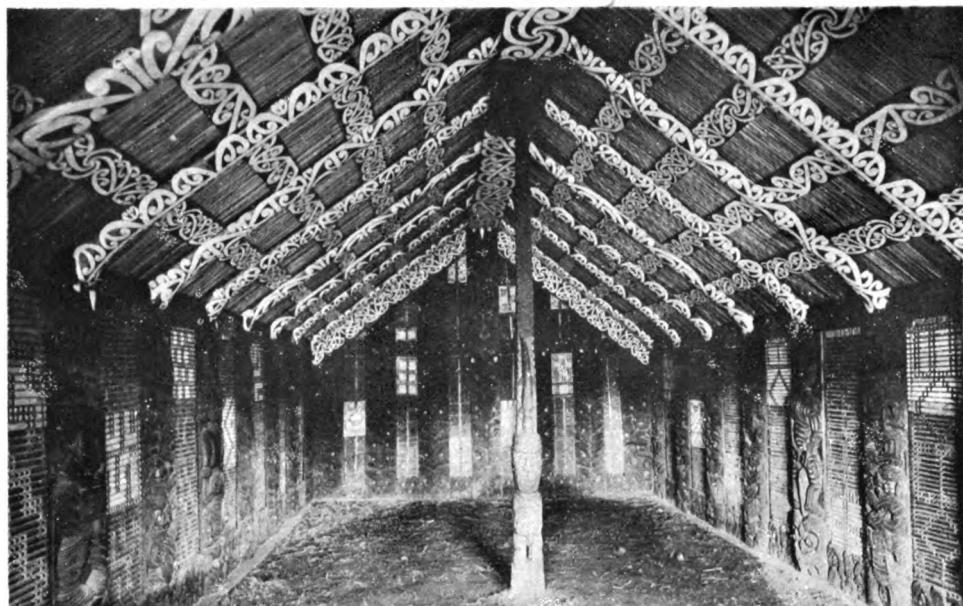
MR. DONNE'S CARVED WHAREFUNDI IN THE INNER PA.

is called a *purangi*, and was built by the Whanganui men, who say their people frequently constructed cook-houses and sleeping-huts of this round pattern in former times. To those who had visited the South Sea islands this little *purangi* was reminiscent of the circular and oval houses of the Samoans, with the difference that the sides of the Samoan houses are usually open. This fact was mentioned to one of the Whanganui house-builders, an old carver, and he said at once, "I know that is probably so; the people on some of the islands of Hawaiki must have houses like these, for it was our ancestor Turi who brought the knowledge of this kind of house-building with him when he came to this country in his canoe Aotea from the isle of Rangiatea, where the cocoanut grows and the *kumara* needs no care."

In rear of the *marae* were the cooking-quarters. Some of these were primitive Maori earth-ovens or *hangi*, with their heaps of cooking-stones ; dried fish and eels were hung upon large wooden racks ; on the *marae* at times heaps of the edible seaweed called *karengo* were spread out to dry in the sun. Loose-gowned women with tattooed chins, the dames of the Whanganui and the Arawa, gossiped with each other, plaited flax baskets, or tended their cooking and their babies.

#### SOME NOTABLE MAORIS IN CAMP.

The fine old tattooed warriors of the Maori will soon be as extinct as the *moa*. There were just one or two of these old-time *toas* in the Arai-te-uru stockade. The most notable of these was the Waikato veteran Mahutu te Toko, a cousin of the



THE INTERIOR OF THE CARVED WHAREPUNI.

late Maori King Tawhiao. Sitting with a caulking-mallet in his hand—he was assisting in the repairing and fitting-out of his great tribal canoe, the “Tahere-tikitiki,” in the waterside division of the *pa*—the old Waikato chieftain recounted some of the episodes of his fighting youth to his Maori-speaking interviewer. He is not a big man ; he is spare, and of once very active frame ; his forehead is high, his face blue-chiselled with the spirals and other conventional devices of the tattooing artist. In facial lines Mahutu bears a rather remarkable resemblance to his cousin, the old Maori King. He wore an old slouch hat, with a white feather, cocked over his tattooed brow ; his clothes were *pakeha* store clothes, and round his shoulders he wore a bright-coloured shawl, for the winds of the “Wai-pounamu,” he complained, “ate into his bones,” and he made jocular lament for the warm airs of his homeland, Waikato.

3—Dominion Museum.

Old Mahutu, led to tales of other days, was drawn back to the war-path again. His old slouch hat took a fighting tilt ; the *pakeha* caulking-mallet became a tomahawk.

“ *E tama !* my first war-trail ! It was in Taranaki, when the Waitara war began. I marched down through the forests of the Rohepotae, with a hundred other young men of Waikato and Ngati Maniapoto, to shoot *pakehas*. Rewi Maniapoto led us. I was then untattooed ; I was perhaps twenty-four years old. My double-barrelled gun and my tomahawk—those were my weapons. We fought the Queen’s soldiers at Waitara, at Kairau. Then the Wai-kotero fight ; there I killed a white soldier with a blow of a long-handled tomahawk—so ! *E-e !* His neck was cut through—he fell—he died !—in the swamp at Wai-kotero he died !

“ Then there came the Waikato war, when we were forced back and back from Papakura, and Tuakau, and Mercer, and Rangiriri, until all the valley of the Waikato

was in *pakeha* hands, and the gun-boats of the Queen floated on the waters of the Horotiu. At the beginning of that war (in 1863) I led a war-party of Waikato and Ngati Maniapoto against the *pakeha* soldiers and settlers at Patumahoe. We fought in the bush ; it was quite a fine little battle. We skirmished through the forest, and jumped from tree to tree, firing, and reloading and firing again at our enemies ; the *pakehas* came out to meet us, but we had the best of it, for we

fought nearly naked, and we were off like eels through the swamp. Then Rangiriri—Paterangi—Rangiawhia—Orakau ; the Maori fell ; his lands went to the strong hand, and he took to the shelter of the Rohepotae, the King-country.

“ There I lived for years after the war ; there I became a Hauhau, when the prophets came from Taranaki with the new *Pai-marie* religion of Te Ua. And it was then—after the war—that I was tattooed, after the *moko* fashion of my fathers. Tawhiao desired his young warriors should have their faces tattooed, and revert to the customs of their ancestors. He told me that I must be tattooed ; so when a *tohunga-ta-moko*—a tattooing artist—named Te Huki arrived in our village at Tokangamutu from Kawhia, I went to him and was adorned as you see. *E tama !* It is the sign and token of the Maori of other days. But the time of the *tohunga-ta-moko* has passed. The young men of my race no longer desire the *moko*, and there is not one *tohunga-ta-moko* alive in the Waikato who could tattoo them if they did. The dark-tattooed face of war will not long be seen amongst us ; all that will be seen



THE FLAX-KIT MAKERS.

will be the blue-chiselled chins of the women." And the old fellow stooped again over the caulking of his big canoe, and puffed away at his old black pipe.

Near by there was another grey-haired Waikato hard at work, lashing the long topsides of the "Taheretikitiki" to the dove-tailed hull. He was a big, stout, large-limbed man, girt with a shawl, for he despises the trousers of the paleface—Ahuriri, the canoe-captain, a one-time skilful *kai-hautu*, or time-giver—the fugleman who balances himself amidships in the long narrow *waka-taua*, and yells himself hoarse in his calls to his crew and chants his staccato canoe-songs. Ahuriri hailed from Waahi, "King" Mahuta's village on the banks of the Waikato, near the Huntly coal-town. One of his war-time memories is the fight at Rangiawhia, in the Waikato campaign, when the Forest Rangers and Nixon's cavalry raided a pretty little village in the Waipa basin early one morning, and made short work of some of Ahuriri's relatives. Like old Mahutu, he spent many years in the rebels' Alsatia, the King-country, at Te Kuiti and Hikurangi.

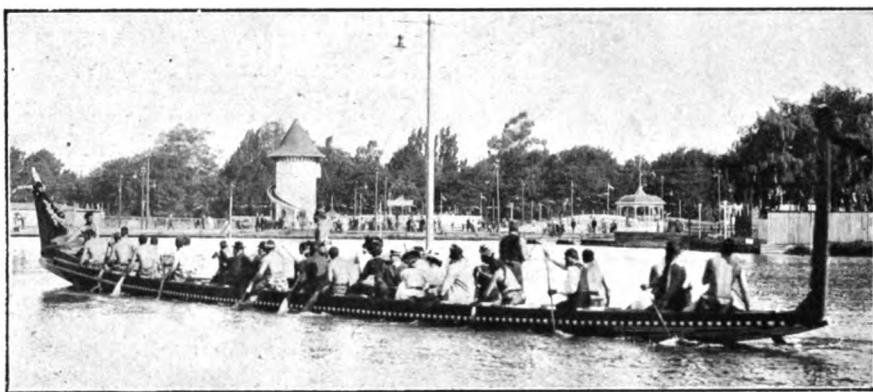
Neke Kapua, the principal wood-carver amongst the Arawa Maoris in the pa, was another man with a story to tell. Neke, a tall, straight-limbed veteran, a cunning workman with the mallet and chisel, has been on the war-path himself, and has used his rifle and tomahawk on half a dozen battlefields and many a dim forest trail. As a youth of sixteen or seventeen he joined the loyal column of Arawa soldiers led by the celebrated Pokiha Taranui (the late Major Fox), about the year 1865, and from that time until 1871 served on the Government side against the Hauhaus. With his chief Te Matangi he took the field in the Rotoiti district against the Ngati Porou rebels who invaded the Arawa country, and shared in a lively little

3\*



MAHUTU TE TOKO.

skirmish at Tapuaeharuru, the "Sounding Sands," at the eastern end of Lake Rotoiti. He was one of the young Arawa warriors under Major Mair who invested the strong Hauhau *pa* at Te Teko, and leaped with his comrades in the great war-dance performed as the Hauhau prisoners, including some of the murderers of the missionary Volkner, were marched out of the *pa*. Then came the sea-coast fights with the Ngati Porou Hauhaus, who were defeated by the Arawas (led by white and Maori officers), in a series of running fights along the Bay of Plenty coast, at Waihi and Kaokaoroa. In 1869 Neke marched with his kinsmen of Ngati Pikiao, led by Pokiha, in Colonel Whitmore's column, the first Government force that ventured into the wild country of the Urewera mountaineers, rushed the Harema *Pa*, and fought at Ruatahuna and elsewhere, often ambuscaded in the dense forests by the savage Ureweras. Some of Neke's shawl-kilted comrades-in-arms were, however, just as savage in their methods of warfare. Neke relates how Matene te Huaki, an Arawa chief, decapitated with his tomahawk three Urewera men who



THE WAR-CANOE "TAHERETIKITIKI," ON THE VICTORIA LAKELET.

were shot on the hills above the Ruatahuna Valley, and carried their heads with him all the way back to Rotorua as trophies of the forest campaign. Another war experience of Neke's was his service in the company of Arawa scouts, under Captain Gundry, a plucky half-caste officer, in the bush fighting against Titokowaru's cannibal Hauhaus in Taranaki, after the fall of Tauranga-ika *Pa*. Neke's home is on the shores of the beautiful little bay of Ruato, on Lake Rotoiti. His *hapu*, Ngati Tarawhai, has for generations been celebrated for its clever wood workers and carvers ; Neke's father and his grandfather before him were notable *kai-whakairo*, artists of the carving-chisel. His sons are also deft and industrious wood-carvers ; in the Ngati Tarawhai, at any rate, there is little fear of the fine old *whakairo* becoming a lost art.

Then there were George Pukehika, the Whanganui wood-carver, and his canoe-men from Ranana, and Karatia, and Putiki, on the lower Whanganui River. There was Tuta Nihoniho, the Ngati Porou chief, hero of a score of fights in the Hauhau days on the east coast, and Major Ropata's old lieutenant. Tuta is an old hand

with gun and tomahawk. He was skirmishing and taking palisaded *pas* about the East Cape, and Poverty Bay, and in the Urewera country from 1865 to 1871, and he can spin many a wild tale of the Hauhau-hunting expeditions round about the rocky shores of Lake Waikaremoana and the gorges and forested peaks of Tuhoe Land, when he and his fellows of Ngati Porou were frequently reduced to living on *tawa*-berries and fern-root and the heart of the *mamaku* fern-tree.

Another visiting chief, probably the highest in rank of all living Maori *rangatiras*, was Te Heuheu Tukino, the head-man of the Taupo tribes and the hereditary *Ariki* of the Ngati Tuwharetoa Tribe. Te Heuheu and the big jovial Te Rawhiti, of Waikato, joined with spirit in the *hakas* of the combined tribes in the earlier stage of the *pa* season ; their tribes-people were unable to attend as a body.

All good types of the Maori people, these tribal representatives in the Arai-te uru Pa—men and women with pedigrees that stretch back into the remote ages when their Polynesian ancestors dwelt in the palm-clad islands of the traditional Hawaiki.

#### THE CANOES.

The proximity of the little Victoria Lake to the *pa* afforded an excellent chance for the display of some fine specimens of the Maori canoe, from the stately decorated *waka-taua* to the little *kopapa* or *mokihi*. Half a dozen good specimens of the *waka Maori* were brought down from the North Island for the Exhibition.

First of all came the "Taheretikitiki," the pride of the Waikato River, lent for the Exhibition by her principal owner, Mahuta, whose two relatives, old Mahutu and Ahuriri, came down in charge of her. "Taheretikitiki"—meaning the "Warrior's Crest," in allusion to the olden custom of hairdressing by tying it up in a knot high on the head—is a beautifully modelled craft, and of great size. She is 84 ft. in length over all, with a beam of 5 ft. amidships ; her hull is different from those of other canoes now in existence, in that it consists of three sections which cunningly dovetail into one another ; the middle section is



GREETING THE COMING GUESTS.

50 ft. in length. The big canoe has topsides lashed on on either side, and is finished off bow and stern with the lofty ornaments without which no war-canoe is complete, the stern-post with its flaunting feathers, and a carved figurehead with two long *hihi*—wands decked with white tufts of albatross-feathers—projecting from its head like great feelers. "Taheretikitiki" has a rather notable history, although her triumphs have been those of the regatta-course rather than of war. She was built about twenty-four years ago on the Kaipara, cut out of a *kauri*-tree by the Ngati Whatua Tribe for their fine old chief, the late Paul Tuhaere, of Orakei, Auckland Harbour, who before his death presented the canoe to King Tawhiao, and shipped her up to the Waikato River. On the Waikato the big *waka* was often manned to convey Governors, Ministers of the Crown, and other notable visitors across the river from Huntly to Mahuta's village at Waahi. On several occasions she competed in most exciting races in Auckland Harbour, two of which were against man-of-war cutters. She was brought down to Auckland on one occasion about seven years ago, and, manned by more than fifty paddlers, made a splendid fight over a two-mile course with two of H.M.S. "Tauranga's" twelve-oared cutters, beating them both. A day or two later her crew of barebacked Waikatos paddled her to victory in a race with two large canoes, "Omapere" and "Tawatawa," from the Bay of Islands. "Taheretikitiki" was put together on arrival at the *pa* by the Waikatos who came down with her, and a number of repairs were found to be necessary. She was launched on the lake, and was used in several sham fights and spectacles during the currency of the *pa*. His Excellency was taken round the lake on one occasion in the canoe. A really good canoe-race was, unfortunately, a sight that Exhibition visitors could not see in Christchurch, but the "Taheretikitiki" was manned occasionally and got under way on the lakelet, in order to give some idea of what a fully manned and equipped war-canoe looked like in the olden days.

The Whanganui canoes included four good-sized craft, fitted with topsides and ornamented with *tete* and other kinds of carved figure-heads, and with gracefully carved sternposts. These canoes were—"Te Uru," about 40 ft. long; "Muritai," 50 ft. long; "Whatawhata," 50 ft. long; and "Waiapu," about 42 ft. in length and 4 ft. beam. The "Whatawhata" was brought down from Koriniti (Corinth), one of the Wanganui riverside settlements; the "Waiapu" came from Ranana (London), Major Kemp's old home. This "Waiapu" was the beamiest and most seaworthy-looking of the river fleet. The Maoris at Putiki Settlement were accustomed to paddle out in her beyond the bar of the mouth of the Whanganui on fishing expeditions.

So it was quite a complete little Maori town—this Arai-te-uru, with its carved houses and its mat-garbed people, its defence-works, and its fleet of canoes sitting on its water-front; and for months it was a source of interest and amusement to thousands of visitors.

## EVENTS IN THE PA.

When the Exhibition opened the village was occupied by nearly sixty Natives from Whanganui and Rotorua, including the artificers who had carved and constructed the *pa*. These people, assisted by a few belonging to other tribes, danced *hakas* and performed *pois* daily for several weeks, and welcomed His Excellency the Governor (Lord Plunket), Sir John Gorst (Special Commissioner from the British Government), the Cabinet Ministers, the Exhibition Commissioners, and other distinguished visitors, and also warmly greeted in Maori fashion the visiting Natives from the Cook Group, Niue, and the Fiji Islands.

Towards Christmas of 1906, Captain Gilbert Mair arrived with a large party of Arawa Natives from the Rotorua and surrounding districts, the pick of the *haka*-dancers and *poi*-girls of that celebrated tribe. The party numbered fifty-six men and twenty-two young women. The men included several chiefs, such as Mita Taupopoki, of the Whakarewarewa geyser-valley, Taranaki, and the *tohunga* Tutanekai, a descendant of the famous Tutanekai of Mokoia Island, the lover of Hinemoa. The girls were led by Bella Reretupou and Maggie Papakura, the well-known half-caste guides at Whakarewarewa. These people provided some splendid dance-and-song entertainments in the village-green. Particularly interesting was the quaint "canoe-*poi*" as sung and acted by Maggie's well-trained troupe.

At the end of January thirty Natives from Putiki and other lower Whanganui settlements arrived under Wikitoria Kepa (Victoria Kemp), the daughter of the late Major Kepa te Rangihiwini, and Takarangi Mete Kingi. The girls of this party gave *pois* and sang beautiful part-songs; they were led by their teachers from Putiki Mission School, Miss Hera Stirling and Miss Mangu Tahana.

A party of young girls, mostly of the Whanganui tribes, from the Presbyterian Maori Girls' College at Turakina, paid the *pa* two visits under their principal, Mr. Hamilton, and contributed their quota of pretty action-songs, *pois*, and part-songs.

In February and March two large parties of the Ngati Kahungunu Tribe, of Hawke's Bay, numbering nearly two hundred, occupied the *pa* in turn. These tribesmen were of particularly fine physique, and trod the dancing-ground like warriors of old in their martial *haka* and *tutu-waewae*. Their principal chiefs were Mohi te Ata-hikoia and Pene te Ua-mai-rangi. During their residence in the *pa* they engaged in a mock battle by night with the white Volunteers, and defended an intrenchment; and on another occasion a mimic attack was made by canoe-



TUTANEKAI, OF ROTORUA.

crews approaching across the lake and vigorously assailing the spearsmen in the waterside stockade.

While the Arawa Maoris were engaged in erecting the *pa* in October, Raiha, the wife of one of the carvers, Rangawhenua, gave birth to a child. This little girl was a source of great interest to both Maoris and *pak has* and a sum of money was raised for her benefit. On the 14th December, just before these carvers departed for their northern homes, the baby was christened on the village *marae* by Bishop Julius, assisted by Hemana Taranui, chief of the Ngati Pikiao at Maketu. Bay of Plenty, who is a Native lay reader. She was very fittingly baptized with the name of Arai-te-uru, the name of the *pa*. This little ceremony, in its unique surroundings, was witnessed by a large number of Maoris and Europeans.

The Hon. James Carroll, Native Minister, who had been delayed by serious illness in Wellington, paid his first visit to the *pa* on the 14th April, and was warmly received with dances and songs of greeting, and speeches by the *rangatiras* Potango,



A POI DANCE.

Tuta Nihoniho, Taranaki, Te Rangihiroa (Dr. Buck), and Hone Maaka. Addressing the Natives, Mr. Carroll complimented them on their *pa*; "We the Maoris, have little left," he said, "but it is much to have a fortified *pa*. Remember the proverb of your ancestors, 'The house built out in the open is food for the flames, but the carved house in a fortified *pa* is the sign of a chief.'"

Amongst the handicrafts in which the Maoris employed themselves in the *pa* was the ancient art of weaving flax and feather mats or cloaks. One particularly fine specimen of a *kahu-kiwi*, or mat of kiwi (*apteryx*) feathers—the feathers are woven or stitched on the outside of a soft flax fabric—was made by Tiria Hori, a young woman of the Ngati Tuera Tribe, from Pukerimu, on the Whanganui River. This beautiful cloak was ornamented with a handsome border of the pattern known as *taniko*; the dyes used were made from the bark of native trees—the *toatoa* for the red colouring, the *raurekau* for the yellow, and *hinau* for the black.

Perhaps more could have been done in the way of practical illustrations of ancient Maori handicrafts. An interesting primitive industry, for instance, would

have been that of the Maori greenstone-workers. The shaping and grinding of weapons and ornaments from blocks of *pounamu* was probably the most difficult art mastered by the New Zealand Natives of former days. The various stages of greenstone-working could have been shown, from the commencement on the rough slab or block to the polishing and finishing of the beautiful *mere*, *tiki*, and *whakakai*,



THE PORCH OF THE LARGE MEETING-HOUSE.

that are the Maori's most valued treasures and tribal heirlooms. The use of the *pirori* or flint-pointed rotary drill, with which holes were bored in the hand-*mere* and neck and ear ornaments, would, had it been shown, have been particularly interesting to visitors. The art of making and manipulating the *pirori* has not yet been quite forgotten by the older generation of Maoris.

For the visiting Maoris the *pa* had its educational advantages. Not only did the different tribes benefit by witnessing each other's competitions and ceremonies, and by the interchanging of ideas and information, but they were also given an excellent lesson in hygiene. They learned the necessity for ventilation in houses and for cleanliness in all respects. For this the credit is due to Dr. Te Rangihiroa, the young Maori *tohunga* of the *pa*.

The turnstile at the entrance of the *pa* recorded a total attendance of over sixty thousand people.

#### THE POI-DANCERS AND THEIR SONGS.

Sometimes the *pois* of the visiting tribes were danced to the music of an accordion or a mouth-organ somewhere in the rear, playing a plaintive little air, haunting in its frequent repetitions, and often to the accompaniment of a song only, chanted by the leader. The dancers delighted in dresses of bright colours, and in their hair they wore white feathers, sometimes albatross-feathers in bunches of three, after the olden head-dress fashion of Maori chieftainesses.

Perhaps the most remarkable of the *poi*-dances were those given by the Ngati Kahungunu girls from the Hawke's Bay District. These dances were led by a woman of the Nga Rauru Tribe, South Taranaki, who had married into Ngati Kahungunu, and she introduced as an accompaniment to the movements of the *poi* the ringing rhythmic incantations of her people, the old, old *karakia*, handed down through many centuries. These ancient pagan charm-songs are sung to this day by the *poi*-dancers in the historic town of Parihaka; they are wild and high, and give a barbaric touch to the poetic *poi*. The most interesting of these Nga Rauru chants to which the Kahungunu girls twirled their *poi*-balls was the following; it is the canoe-song of Turi, the great ancestor of the Taranaki tribes, who arrived on these shores six centuries ago in his viking-canoe the "Aotea," after a perilous voyage across the Great-Ocean-of-Kiwa from the South Sea isle of Raiatea, in the Society Group.

So chanted Turi's descendant-chieftainess the Epic of the Paddle, with which "Aotea's" captain animated his crew of adventurous brown sailormen:—

#### THE SONG OF THE AOTEA CANOE.

Ko Aotea te waka,	O te wai o taku hoe nei.
Ko Turi tangata ki runga,	Kei te rangi, hikitia !
Ko te Roku-o-whiti te hoe.	Kei te rangi, hapainga,
Piri papa te hoe !	Kei te aweawe nui no Tu.
Awhi papa te hoe !	Tena te ara ka totohe nui,
Toitu te hoe !	Ko te ara o tenei Ariki,
Toirere te hoe !	Ko te ara o tenei matua iwi,
Toi mahuta te hoe !	Ko te ara o Rangi-nui-e-tu-nei.
Toi kapakapa te hoe	Nguaha te kakau o taku hoe nei.
Kai runga te rangi.	Ko Kautu-ki-te-Rangi.

Ko te hoe nawai ?  
 Ko te hoe na te Kahu-nunui ;  
 Ko te hoe nawai ?  
 Te hoe na te Kahu-roroa.  
 Ko te hoe nawai ?  
 Ko te hoe no Rangi-nui-e-tu-nei.  
 Tena te waka,  
 Ka tau ki Tipua-o-te-Rangi,  
 Ki Tawhito-o-te-Rangi,  
 Nga turanga whatu o Rehua.  
 Hapai ake au  
 I te kakau o taku hoe,  
 I te Roku-o-whiti.  
 Whiti patato, rere patato,  
 Mama patato.  
 Te riakanga, te hapainga,  
 Te komotanga, te kumenga  
 Te Riponga, te awenga  
 A te puehutanga

Ki te rangi, hikitia ;  
 Ki te rangi, hapainga ;  
 Ki te rangi tutorona atu,  
 Ki te rangi tutorona mai.  
 Ki te rangi tu te ihi,  
 Ki te rangi tu te koko,  
 Tu te mana, tu te tapu,  
 E tapu tena te ara,  
 Ka totohe te ara  
 O Tane-matohe-nuku,  
 Te ara o Tane-matohe rangi,  
 Ko te ara o te Kahu-nunui,  
 Ko te ara o te Kahu-roroa,  
 Ko te ara o tenei Ariki,  
 Ko te ara o tenei tauira.  
 Tawhi kia Rehua,  
 Ki uta mai, te ao marama ;  
 E Rongo-ma-Tane !  
 Whakairihia !

## (TRANSLATION.)

Aotea is the canoe,  
 And Turi is the Chief.  
 The Roku-o-whiti is the paddle.  
 Behold my paddle !  
 It is laid by the canoe-side,  
 Held close to the canoe-side.  
 Now 'tis raised on high—the paddle !  
 Poised for the plunge—the paddle !  
 Now we spring forward !  
 Now, it leaps and flashes—the paddle !  
 It quivers like a bird's wing  
 This paddle of mine !  
 This paddle—whence came it ?  
 It came from the Kahu-nunui,  
 From the Kahu-roroa,  
 It came from the Great-Sky-above-us.  
 Now the course of the canoe rests  
 On the Sacred Place of Heaven,  
 The dwelling of the Ancient Ones,  
 Beneath the star-god Rehua's eye.  
 See ! I raise on high  
 The handle of my paddle,  
 The Roku-o-whiti.  
 I raise it—how it flies and flashes !  
 Ha ! the outward lift and the dashing,  
 The quick thrust in and the backward sweep !

The swishing, the swirling eddies,  
 The boiling white wake  
 And the spray that flies from my paddle !  
 Lift up the paddle to the sky above,  
 To the great expanse of Tu.  
 There before us lies our ocean-path,  
 The path of strife and tumult,  
 The pathway of this chief,  
 The danger-roadway of this crew ;  
 'Tis the road of the Great-Sky-above-us.  
 Here is my paddle,  
 Kautu-ki-te-rangi ;  
 To the heavens raise it ;  
 To the heavens lift it ;  
 To the sky far drawn out,  
 To the horizon that lies before us,  
 To the heavens, sacred and mighty.  
 Before us lies our ocean-way,  
 The path of this sacred canoe, the child  
 Of Tane, who severed Earth from Sky.  
 The path of the Kahu-nunui, the Kahu-roroa,  
 The pathway of this chief, this priest.  
 In Rehua is our trust,  
 Through him we'll reach the Land of Light,  
 O Rongo-and-Tane !  
 We raise our offerings !

At the final word " Whakairihia ! " the dancers raised their twirling *poi*-balls above their heads at arm's length ; this was in imitation of the olden custom of the priests in lifting up their first-fruits offering of a *kumara* (sweet potato) to Rongo,

the god of cultivated foods. Rongo-ma-Tane, sometimes spoken of as one deity but really two individuals, ranked high in the Polynesian pantheon. Rehua, the god mentioned in the chant, dwelt, according to mythology, in the tenth or highest heaven ; he was a beneficent deity. Rehua is also the name of the star Sirius.



A POI PERFORMANCE BY ROTORUA WOMEN.

#### LOVE-SONGS OF THE MAORI.

In the pretty *poi* and part songs of the Turakina and Whanganui girls there was a softer touch. Some were plaintive little love-ditties and laments, such as are to be heard in any Maori village, and which by frequent repetition are known to old and young alike. One which is chanted and crooned from end to end of Maoriland, with some slight local variations, is this, as sung by the Turakina schoolmaids :—

Hokihoki tonu mai te wairua o te tau  
 Ki te awhi-Reinga ki tenei kiri—ē !  
 I tawhiti te aroha e pai ana e te tau.  
 Te paanga ki te uma mamae ana, e te tau !

He moenga hurihuri te moenga i wharepuni,  
 Huri atu, huri mai, ko au anake, e te tau.  
 He pikinga tutonu te pikinga Hukarere ;  
 Na te aroha ka eke ki runga—ē !

Aikiha ma e mau mai to uma,  
 Maku i here ka tino pai rawa—ē !  
 Ka *pine* koe e au ki te *pine* o te aroha,  
 Ki te *pine* e kore nei e waikura—ē !

#### (TRANSLATION.)

Oft the spirit of my love  
 Returns to me  
 To embrace in Reinga-land\*  
 This form of mine.  
 Though far away, I ever fondly dream  
 Of thee,  
 And a sweet pain is ever in  
 My bosom, O my Love !

\* "Reinga"—the Maori land of departed spirits. In the poem it means the "Land of Dreams." During sleep the soul or spirit (*wairua*) is supposed to leave the body and flit to the underworld of the Reinga ; visions in dreams are the spirits of one's friends seen in the Reinga.

Restless my couch within the *wharepuni* ;  
 I this way, that way, turn, I lonely lie,  
 My Love.  
 Far, far above me are the  
 Mountain-heights of Hukarere.  
 Yet will the power of love  
 Uplift me there,  
 For there art thou.

Ah ! I see again the kerchief white  
 Upon thy breast.  
 'Twas I that tied it there,  
 To make thee look so fine.  
 I'll pin thee to me  
 With the pin of love, the pin  
 That never rusts.



A PARTY OF POI-DANCERS MARCHING INTO THE MARAE.

Another love-chant, rich in the touching imagery in which the soul of the Maori delighted, was the following *pao* or *waiata-aroha* of the Turakina schoolgirls, led by Miss Stirling :—

Whak pukepuke ai au—ē !  
 Te roimata i aku kamo,  
 He rite ki te ngaru  
 Whati mai waho—ē !

Taku turanga ake  
 I te taha o te whiro,  
 Ka titiro atu  
 Ki te akauroa—ē !

Ko te rite i aku kamo  
 Ki te pua korari ;  
 Ka pupuhi te hau,  
 Ka maringi te wai—ē !

Ko te rite i ahau  
 Ki te rau o te wiwi  
 E wiwiri nei  
 He nui no te aroha—ē !

He aroha taku hoa  
 I huri ai ki te moe,  
 Hei hari atu  
 Ki raro Reinga e te tau—ē !

## (TRANSLATION.)

Like a flood, ah me !  
 The tears flow from mine eyes ;  
 They burst like the ocean-waves  
 Breaking yonder on the shore.

Ah me !

My weeping eyes  
 Are like the drooping flax-flowers :  
 When the wind rustles them,  
 Down fall the honey-showers.

Ah me !

Lonely I stand  
 By the side of the willows,  
 Gazing, ever gazing  
 Upon the long sea-strand.

Ah me !

I am like unto  
 The leaves of the *wiwi*-reed—  
 Quivering, shaking, trembling  
 With the strength of my love.

Ah me !

Ah ! Once love was my companion  
 When I turned me to slumber ;  
 It was the spirit of my love  
 That joined me in the Land of Dreams.



POTANGO AND HIS WHANGANUI POI-DANCERS.

And yet another, sung by the Turakina girls to a sweet and plaintive air, was the following *pao* :—

Tangi tikapa,	Hua au, e hine,
A tangi kupapa	He pine mau to pine.
A tangi hurihuri	Koia-a nei-i
Te moenga ra—ē !	Ko taku te mau roa—ē !
	Ko te paru i repo
	Ko te ma i te wai,
	Ko te paru o te aroha
	Ko mau roa e—i !

## (TRANSLATION.)

With quivering stretched arms.  
 And bowed head I weep,  
 And restlessly turn on  
 My lone sleeping-mat.

Once I hoped, O maiden !  
 Your love ne'er would wane.  
 Ah me ! it has vanished,  
 But mine ceaselessly burns.

Swamp-stains on the feet  
 Are washed clean in the stream,  
 But the heart-stains of love  
 For ever remain.

## HAKAS AND WAR-SONGS.

Of a sterner sort were the war-dances and *hakas* of the men. Sharp, wild staccato chants gave time and spirit to the quick stamping of the feet, and the thrusting this way and that of wooden spears and *taiahas*, the strange quivering of outstretched hands, and the grimacing and tongue-lolling of the warriors. Some songs were specially composed, but most were old war-chants, interspersed with songs of greeting. The great war-song of the Taupo tribes, beginning "U-u-uh*i* mai te waero!" was often raised; again the familiar "Ka mate, ka mate, ka ora, ka ora"—chant of peacemaking and welcome. Another rousing dance-chant, in which the veteran Ngati Porou chief Tuta Nihoniho was fond of joining, was the historic and savage *ngeri*, with its barking chorus:—

Kia kutia !	Squeeze close !
Au- <i>au</i> !	<i>Au-<i>au</i>!</i>
Kia wherahia !	Spread out !
Au- <i>au</i> !	<i>Au-<i>au</i>!</i>
Kia rere atu te kohuru	Ah ! let the treacherous one
Ki tawhiti	Flee away into the distance,
Titiro mai ai.	And turn and fearfully gaze at me,
Ae, ae. Aue !	Yes, yes. <i>Aue</i> !



THE TURAKINA SCHOOLGIRLS' POI.

Tuta might well be familiar with that song, or, rather, war-yell, for he and his kilted comrades of Ngati Porou chanted it in earnest all together on one memorable occasion in 1871, on their last warpath in the wild Urewera country, when they surprised and captured the rebel Kereopa, the arch-murderer of the missionary Volkner.

Some stirring old sentinel-songs of barbaric days were revived on occasions. One still night, when there was an unusually large gathering of tribespeople in the village, the Whanganui hapus, the Ngati Kahungunu from Hawke's Bay, and members of other clans, Whanganui's active little captain, Potango, and the grey-haired chief

Te Ua-mai-rangi ("The Rain-from-Heaven"), of the 'Kahungunu, each mounted a watch-tower, one in the inner and one in the outer *pa*, and with stentorian voices that carried far beyond the precincts of the *pa* shouted defiance at each other as their fathers did in the olden days, and chanted the ancient watch-songs which the sentries on guard in the *puhara* used to roll into the listening darkness on nights of danger, and particularly just in the dark shivery hour that precedes the dawn— —the hour when the enemy's attack was most to be feared. Potango, *taiaha* in hand, took post on the high inner *puhara* overlooking the assemblage squatting round the *marae*, and cried his sentinel chant:—

Tenei te pa !  
A—tenei te pa !  
Tenei te piwatawata,  
Te aka te whauhia nei.  
Ko roto ko au.  
E-e !

This is the fort,  
Yes, this is the fort !  
These the high palisades,  
Bound with the forest vines.  
And here within am I.  
Aha !

Tena te parera maunu.  
Tete <sup>mai</sup> nei.  
Ko roto ko au.  
E-e !

See, yonder comes the moulting duck  
(Crouching in the fern) :  
It is running towards me  
('Tis the stealthy foe) ;  
But here within am I.  
Aha !



A PARTY OF NGAITAHU POI-GIRLS, SOUTH ISLAND.

And from the angle-tower of the lakeside stockade came "The Rain-from-Heaven's" answering song, the old, old *whakaaraara-pa* chant of the famous Rau-paraha's Ngati Toa warriors, a song composed on the far-away west coast of the

North Island, and bearing in its great ringing words memories of the surf-beaten coasts of Mokau and the lofty cliffs of South Kawhia :—

Whakaarahia !	Arise, arise,
Whakaarahia !	O soldiers of the fort !
E tenei pa !	Lest ye go down to death.
E tera pa !	High up, high up, the thundering surf
Kei apitia koe ki te toto.	On Harihari's cliffs resounds,
Whakepuru tonu,	And loud the wailing sea
Whakapuru tonu	Beats on the Mokau coast.
Te tai ki Harihari.	And here am I, on guard,
Ka tangi tiere	Seeking, searching, peering,
Te tai ki Mokau.	As on those rocky crags
Kaore ko au	The sea-hawk sits
E kimi ana,	And watches for his prey.
E hahau ana,	Soon will the sun
I nga pari ra	Rise flaming o'er the world !
Piri nga hakoakoa,	
Ka ao mai te ra	
Ki tua.	
E-i-a ha-ha !	



A "CANOE POI"

The Whanganui Natives who visited the *pa* from Putiki, Pipiriki, Parinui, and other river villages numbered about seventy. Potango Waiata, of the Atihau Tribe, Pipiriki, was one of the most energetic of the Whanganui Natives in the *pa*. Bare-footed and bare-legged, garmented in a fine *kiwi*-feather cloak, a flax waist-*piupiu*, his head decked with a broad plaited and coloured flax *tipare*, and a feathered and carved *taiaha* in his hand, he was truly and picturesquely Maori as he ran along his lines of dancers, and led them in the *haka* or the war-dance.

4—Dominion Museum.

This was one of Potango's favourite war-songs, an old chant shouted by the spearsmen of Whanganui as they leaped this way and that, and thrust with their long sharp *koikoi* :—



Tau ka tau  
Ki roto ki taku pa  
Whangaia mai ra  
We-we ! Hara tu !  
Hara te !  
Hara ta !  
A tau !

Here we are  
Waiting within the fort.  
Come, here's food for you  
(The point of the spear) !  
Ha ! That's it !  
Thrust them through !  
And through again !

Here is another lively song, accompanying a *haka* of welcome danced by the Whanganui people to parties of visitors from other tribes arriving in the village :—

Hara mai ra  
E nga iwi nei !  
Kia kite koe  
I oku he  
Kia kite koe  
I taku pahiwitanga  
I te Motu-tapu  
Ki uta ra,  
A ha-ha !  
Ko nga makutu  
A te iwi nei  
Takahia !

Oh ! welcome, welcome,  
All ye tribes !  
Come and behold my faults  
Come and see the burdens  
We have carried hither  
From the Sacred Island of the North.  
Behold all the evils of our race  
Are trodden 'neath our feet like this !



A HAKA DANCE BY THE NGATI KAHUNGUNU MEN, FROM HAWKE'S BAY.

## A VICEREGRAL VISIT.

One of the most picturesque events in the early history of the *pa* was the visit paid to the Maoris on Friday, the 2nd November, by His Excellency the Governor, Lord Plunket, accompanied by Lady Plunket. The Governor was met at the outer gate by the chief Tame Parata, M.H.R. for the South Island Maori District, Neke Kapua (Te Arawa Tribe), Hori Pukehika (Whanganui), and Tuta Nihoniho (Ngati Porou). Within the gates the body of the people were on parade, the men with bare bodies and limbs, armed with spears and *taiahas*, and with their faces black-pencilled in spirals and other patterns in imitation of warriors' tattoo; the women and girls behind them. As the King's representative entered the gate the Maoris, waving weapons and green branches, burst into that fine old chant of welcome which likens a party of guests arriving to a canoe approaching the shore :—

Kumea mai te waka !  
A toia mai te waka !  
Ki te urunga, te waka !  
Ki te moenga, te waka !  
Ki te takotoranga  
I takoto ai te waka.  
Haere-mai ! Haere-mai !  
Toia te waka ki te urunga.



SOME ATHLETIC HAKA-DANCERS.

O haul up the canoe !  
Draw hitherwards the canoe !  
To the home-pillow—that canoe !  
To its sleeping-place—that canoe !  
To the resting-place  
Where shall abide the canoe.  
O welcome ! welcome !  
Pull the canoe to the shore.

The Governor advanced slowly, the Maoris retreating before him until the gate of the inner *pa* was neared. Here they halted and danced an excited *haka*,



THE WARRIORS OF NGATI KAHUNGUNU.

yelling as they did so the old war-song, "Kia kutia, au-au!" The Cook Islands Natives now joined in the welcome in front of the carved meeting-house, and greeted

the vice-royal visitors with one of their melodious chants and a dance. This over, the Maori women and girls advanced to the front, and gave a *poi*-dance, and speeches of welcome were made by the chiefs.



A HAKA BY THE NGATI KAHUNGUNU TRIBE.

The tattooed veteran Mahutu te Toko first greeted the "Kawana"; Neke and Pukehika followed; then Mahutu recited in a high quick tone two ancient *karakia* or incantations, used in former days by his people at the launching of a new war-canoe or the opening of a new house or *pa*, or similar important ceremony. There is a legend that the first was recited over the sacred stone axe with which the tree for the "Tainui" canoe was felled in far Hawaiki, the Maori's South Sea



ANOTHER MOVEMENT IN THE NGATI KAHUNGUNU HAKA.

Fatherland, six hundred years ago. The second was, according to tradition, used when the "Tainui" was hauled to the beach and launched for the voyage to New Zealand. The chant began,—

Toia Tainui, Te Arawa,  
Tapotu ki te moana.  
Ma wai e to ?  
Ma Whakatau e to—

Haul away the canoes Tainui and Te Arawa  
To float upon the ocean.  
Who will drag them to the shore ?  
Whakatau will haul them, &c.

And the oft-sung chant of peace and pleasure, "Ka mate, ka mate, ka ora, ka ora," concluded a cheerily vociferous welcome.

The Governor, addressing the Natives in reply (Dr. Te Rangihiroa interpreted), said, "I welcome you, the Maori people assembled here. Welcome from the King; the King that you all love. When the King sent me forth from England, he asked me to watch over and help in any way possible the ancient race of the Maoris. It is pleasing to see here the Maori and the white man standing together on this great occasion in the history of Maoriland. The sad, bad old days are gone, and we are now assembled together for happier purposes. I am glad to think that what has often been said — that the Maori race is fading away—is not true. It is the hope of every one in the great Empire to which you belong that the Maori race will increase. I wish you well. I hope that you may have happy days here. I will come from time to time and see how you are progressing. I thank you for your welcome in my own name and in the name of His Majesty the King, whom I represent. I wish you all good things. *Kia ora!* (May you live !)"



POTANGO WAIATA, OF WHANGANUI.



A DANCE OF WELCOME TO VISITORS.

On a subsequent occasion the Governor and party were taken for a paddle round the Victoria Lakelet in the large Waikato canoe "Taheretikitiki," manned by a Maori crew. Potango and Turei, of Whanganui River, were the *kai-hau-tu* or captains and time-givers of the "Taheretikitiki." Potango, waving his paddle, stood in the forepart of the canoe, chanting a jocular improvised ditty to give time to the paddle-strokes. A gaily attired *pakeha* lady on the bank seemed to have caught the aboriginal fancy, for this is what Potango the *hau-tu* sang as he thrust his blade to one side and the other :—

Now, bow paddles,  
All together.  
'Midships there, keep time.  
Stern paddles, all together.  
Now we're going along.  
A, ha-ha !  
There's a pretty girl yonder  
Sitting on the bank.  
Ha-ha ! She's smoothing down her gown.

(What a handsome gown !)  
What a splendid hat !  
See, she's waving her handkerchief.  
Ha, ha ! What a small waist she has !  
A waist locked in so tightly !  
*Te hope rakatia !*



NGATI KAHUNGUNU MEN, ARMED WITH GREENSTONE MERE  
AND TAIAHA.

#### SIR JOHN GORST AND THE MAORIS.

A particularly interesting incident was the visit to the *pa* of the Right Hon. Sir John E. Gorst, K.C., the British Government's special envoy to the Exhibition. Sir John's name was well known to the older generation of Maoris in the Waikato,



for in 1861-63 "Te Kohi," as he was called by the Natives, was Government Commissioner in the Waikato district in the days when Sir George Grey governed the

colony. Under Sir George Grey's instructions, Sir John (then Mr.) Gorst established an industrial and technical school for the Maoris at Te Awamutu, and issued a little newspaper printed in Maori, called "Te Pihoihoi Mokemoke i te Tuanui" ("The Lonely Sparrow on the Housetop"), as a counterblast to the Maori King's paper "Te Hokioi," conducted by Patara te Tuhi, who is still in the land of the living. Sir John was now revisiting the colony after an absence of forty-three years; but, though absent so long and far advanced in years, he retained a vivid recollection of, and great affection for, the Maori people, and he was genuinely delighted to find that he in turn was not forgotten by them.

Sir John Gorst, on his visit to the *pa*, was accompanied by Miss Gorst, Captain Atkin (British Commissioner to the Exhibition), and Mr. and Mrs. Ramsay Macdonald. Songs, war-dances, *hakas*, *pois*, made up a true Maori welcome.



LISTENING TO MAORI VISITORS' SPEECHES AND TANGI-CHANTS.

"Haere mai ! Haere mai !" chanted the people of the *pa* all together as their guests entered; it was the olden greeting sung to visitors from distant lands,—

Haere mai ! Haere mai !  
E te manuhiri tuarangi !  
Na taku potiki koe  
I tiki atu  
I te taha atu  
O te rangi  
Kukume mai ai.  
Haere mai ! Haere mai !

Welcome ! Welcome !  
Strangers from the far horizon !  
'Twas our dearest child that brought thee,  
Drew thee from the distant places,  
Where the earth and heaven meet.  
Welcome ! Welcome !

Other loud-voiced and warm-hearted greetings followed. The old Waikato warrior Mahutu te Toko, previously referred to, was particularly pleased to greet "Te Kohi" ("The Gorst") again in the flesh, and sang songs of the lively old days when Sir John's Government school-station was the solitary European foothold in the territory of the great Waikato tribes. One of the chants, too, that the old fellow recited in his crooning sing-song was a "Queenite" song, as opposed to the "Kingites." It was composed in 1863, with special reference to "Te Kohi" and the Manga-

tawhiri River (a tributary of the lower Waikato), the frontier-line of those days. Thus sang old Mahutu :—

Koia, e Te Kohi,  
Purua i Mangatawhiri,  
Kia puta i ana pokohiwi,  
Kia whato-tou.  
E hi nawa—i—ē!

This song-fragment was first sung, it is said, by the sister of Major Wiremu te Wheoro, the friendly Waikato chief. It enjoined "Te Kohi" to "block up" the



A GATHERING OF THE CLANS.

Mangatawhiri—that is to say, to make it a barrier-line or pale against the Kingites, to prevent them from going down to Auckland Town for the purpose of buying clothes and other European commodities, so that their naked bodies might soon be seen protruding from their scanty Native garments.

Sir John, in thanking the people for their greetings, contrasted the present position of the Maori race with their unhappy conditions when he was last in New Zealand, when the white colonists and Natives were fast drifting into a long and disastrous war.

On another occasion Sir John and Miss Gorst were amongst the occupants of the large Waikato canoe "Taheretikitiki" when it was paddled round the Victoria Lakelet by a crew from the *pa*, to the lively chanting of canoe-songs by the kilted captains.

On the 13th November Sir John Gorst, in his turn (being about to leave the Exhibition City) entertained the Maoris and Cook-Islanders at a luncheon in the Alexandra Hall, at which about forty Natives were present. After lunch Sir John, in proposing the toast of "The King," addressed the Maoris in their own tongue. "I welcome the Maoris to the feast of the Government of Great Britain," he said. "Little is my recollection of the Maori language which I spoke in my youth. But listen to my imperfect words; perhaps my meaning will be clear. I left New Zealand a young man. I have been forty-three years in England, and come back an old man. My old friends are nearly all dead—Tawhiao, Wiremu Tamihana, Wiremu te Wheoro, and Rewi Maniapoto, who drove me from Te Awamutu. Only Patara te Tuhi, who was once the editor of the 'Hokioi,' came to greet me in Auckland. The reason of my coming is the Exhibition, to express here in New Zealand the thoughts of the British Government. Their words to the Maori people are that their love is great, and they will rejoice to learn that you are happy and prosperous. Their words are like those of the Government of New Zealand, of the Governor, and of King Edward. They are not new words; they are the words of my old paper the 'Pihoihoi Mokemoke.' The Governor greatly regrets that he could not himself be present at this feast. But the word of all of us to you is this: 'Long life to the Maori people! May the *pakeha* and the Maori live together in this land in friendship and peace for ever!' Let us all join together in wishing health to our King Edward. God save the King!"

The King was cheered loyally by the Maoris and the Islanders, and after the toast a number of chiefs spoke words of greeting to Sir John, welcoming him and Miss Gorst to the Land of Greenstone. Te Heuheu Tukino, the head chief of Taupo; Te Rawhiti, of Waikato; Neke and Taranaki, of Rotorua; and Hori Pukehika, of Whanganui, were the speechmakers. Te Heuheu in his address made reference to the dominant thought in the minds of the Maoris—that Te Kohi's white head reminded them of their fathers who had gone to the Reinga-land. "Salutations," he said, "to you who were the friend of my father and my people. You were their friend and you knew their minds. But now they have all gone. These Maoris before you are strangers. They belong to a younger generation. You will not know them or have any recollection of them. The only means you will have of knowing us will be when it is pointed out to you that this man or that man is the son of some chief or of some friend of yours in your younger days. Those of our chiefs who are left do not follow in the ways of their forefathers."

The Cook-Islanders, with their chief Makea Daniela, sang melodiously one of their South Sea chants. At the end of the speechmaking and the singing, Sir John and Miss Gorst presented each man present with a tobacco-pipe, each woman with

a work-box, and each child with a box of sweets—a thoughtful finale to a reunion that gave the invited Natives exceeding pleasure and food for kindly memories.\*

#### THE COOK-ISLANDERS—MAORIS OF POLYNESIA.

Lapped in perpetual summer lies a second Maoriland,  
Where the ripples of the blue lagoon cream soft on silver strand.

—F. W. CHRISTIAN.

Chanting their ear-haunting tuneful *himenes*, and clattering away with a strange barbaric rhythm on their wooden drums, the brown Islanders from the Cook Group were day after day the centre of intensely interested groups, Maoris as well as whites. One never tired of listening to the delightful part-singing harmonies of these South Sea people, so different to the monotonous chant of the Maori. They were so very earnest, too, these men and women of palm-clad Rarotonga, and Mangaia, and Aitutaki, the men in a half-sailor kind of dress, with broad plaited Panama-like hats, and the women in the long gowns, falling straight from neck to foot, that all Polynesian *wahines* wear in public. There was never a smile on their brown faces as they danced their *tarekareka* dances to the drumming of the *pa'u*, and sang now like flutes, now like the notes of a guitar, and again “boomed” out the final chorus like a sweet and deep-toned bell. Singing and beating the drum of hollow wood, and dancing the ancient and not always graceful Island variety of the “cakewalk” might be their most serious occupation in life so absorbed were they in the *himene* and its quaint accompaniments.

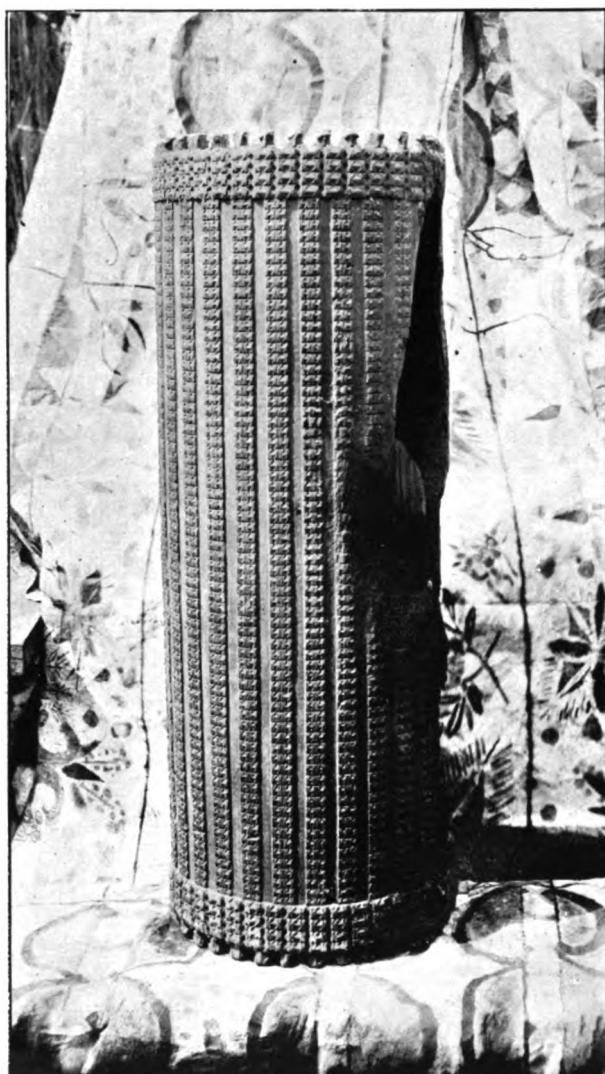
They brought with them an atmosphere of flowery tropic lands, did these dancing, singing people from New Zealand's South Sea dominions, the remotest outpost of the Empire. They were exotics, plainly, as one saw when sharp winds blew, for then they shivered like tropic birds blown astray on to bleak southern shores ; and the Exhibition City, where great white buildings reached to the sky, where people were whirled along the street in lightning-cars, and where grew no cocoanut-palms nor any of the pleasant Island fruits, was very strange and new

\* The following remarks made by Sir John Gorst a few weeks later, at Auckland, following on a tour through the Waikato and a visit to the Ngati Haua, Ngati Maniapoto, and Waikato Tribes, are worthy of record as a thoughtful estimate of the Maori race and its present treatment and status :—

“ New Zealand has the advantage, the peculiar advantage, of the presence of the Maori race. When I left New Zealand I left it in despair, the war was just breaking out, and I thought the Maoris, to whom I was greatly attached, were doomed to extermination ; but I have come back after forty years, and find the most generous spirit of sympathy on the part of the *pakeha* population for the Maoris. There is not a trace of the ill feeling which prevailed in my time, and culminated in the great war. I have spoken to people of all classes of society in New Zealand, and find no trace whatever of that feeling. On the other hand, amongst the Maoris themselves there is much more confidence in the goodwill, and justice, and good feeling of their white neighbours than there was in my time. With the most benevolent intentions we could never get into the feelings of the Maoris, or get them to believe in the genuineness of what we were doing on their behalf—and you know a technical school was designed at Te Awamutu by Sir George Grey for the Maoris, and it was suppressed by violence by Rewi Maniapoto's people—and yet the very same people received me with most extraordinary enthusiasm a few days ago. In that Maori question you have a question which is not completely solved yet, but it is one in which you and your Government have a great opportunity. It is a very distinctive and very remarkable feature in your civilization ; there is nothing like it in any other country in the world. There are places where less civilized races have been reduced to a kind of servitude, but there is no country in the world where the uncivilized race is treated on equal terms, and where more justice and more consideration are shown to them. It is very greatly to the credit of the colony and very greatly to the credit of the people of New Zealand that they became a nation and set an example to the world—which no people yet has imitated—of the unique position of an uncivilized race living in perfect amity and equality with the civilized race, and enjoying all the advantages of civilization.”

to them. The frilly, flowery-looking tropic wreaths of soft ribbon-like fibre-shavings, the *lei*, with which they crowned their heads, their gorgeously patterned and flowered print waistcloths worn on special occasions, their soft and snowy *tapa* dark-cloth garments, their primitive wooden drums covered at one end with shark-skin and beaten sometimes with sticks and sometimes with the fingers, their bright-hued fête-costumes, all helped to give their little *marae*, on the occasion of their public performances, something of the South Sea colour. They were but a small party—only twenty-six in all; but their volume of singing was wonderful for such small numbers. Only the people of coral lands can sing as they sing. The men and women of Rarotonga, and Tahiti, and Samoa seem to have caught by generations of life in the tropics all the strange richness of the true voice of Nature. They have even taken the white man's dreary hymns and turned them into half-wild half-dreamy chants of barbaric days, with their high cadences, their sudden rises and falls, and their long drawn-out final "aue"s and "i"s and "e"s. Their songs have all the subtle tropic charm of the crying of the wild birds and the sighing of the wind in the palm-trees, the crashing roll of the surf on the outer reefs, and the soft crooning murmur of the inner waters on the quiet lagoon-shore.

The visiting Natives from the Cook Group arrived in the Maori *pa* on the day before that on which the Exhibition opened. They had come up to Auckland by steamer from their Islands, thence down to Christchurch under the charge of Mr. H. Dunbar Johnson, one of the Judges of the New Zealand Native Land Court. From their homes they brought their picturesque cloth-bark fête-dresses, native plaited-fibre hats, historic weapons, and the wooden drums and other native instruments of music on which the Polynesian loves to rattle out his Wagnerian harmonies.



FINE SPECIMEN OF AN OLD COOK ISLANDS DRUM, LENT TO THE EXHIBITION BY CAPTAIN GASCOIGN.

They came from three islands of the Cook Group—Rarotonga, Mangaia, and Aitutaki. They consisted of the following individuals: From Rarotonga—Makea Daniela (chief), Tapuae and Tira (women), Arona te Ariki (Makea's brother), Mama (a boy), and Manaia, Aiteina, Iotia, Puka and Tutakiau, Te Ariki, Tauei and Tairo (men); from Mangaia—Tangitoru (chief), Wiremu, Takiora, Te Kaa, Mata, Ruarakau, and Okaoka (two of these were women); from Aitutaki—Kakemaunga, Tiare, Pakii, Maria, Te Mata, and Papa (three men and three women).



GROUP OF THE RAROTONGA NATIVES, HEADED BY MAKEA DANIELA.

On their arrival at the *pa* the Islanders were welcomed with the usual *karanga* or welcome-call, the loud greeting-song of the *powhiri*, with its accompaniment of waving of green branches by the Maori women, and the *haka* by the men. Very appropriately the Maoris beckoned in their South Sea cousins with the fine old greeting-song beginning “A-a ! Toia mai te waka !” (“Oh ! Haul up the canoe !”), likening the arriving strangers to a canoe approaching the long-sought shore. Neke Kapua, the principal man amongst the Arawa tribespeople then resident in the *pa*, welcomed the Islanders in a speech. “Come ! come !” he cried, as he walked to and fro grasping his feathered *maipi* weapon; “Come to us, and welcome !

For you have come from distant Hawaiki, the country whence our ancestors came to these shores in the canoes 'Tainui,' 'Te Arawa,' 'Tokomaru,' 'Matatua.' Then the Maoris, led by old Neke, leaped into the lively war-dance, and sang the very ancient greeting-song—

Ka mate, ka mate,  
Ka ora, ka ora, &c.  
(Is it death, is it death?  
No, 'tis life! 'tis life!)

The song ends with the joyous declaration that "the sun shines forth"—i.e., the sun of peace. The visitors, led by their stout, taciturn-looking chief Makea Daniela, were taken to the large carved house in the outer *marae*, and there, grouped in the porch, they sang their first song, an old and beautiful chant of greeting, a chant that, as was remarked upon at the time, was in rather strong contrast to the fiercely barked dance-songs of the Maoris.

One of the Ministers of the Crown present at the Exhibition, the Hon. J. McGowan (Minister in Charge of Island Affairs), who with Mr. Bishop (Chairman of the Maori Committee) and Mr. A. Hamilton officially welcomed the visiting Islanders, briefly addressed the Maoris, asking them to do all they could for the comfort of the new arrivals. Then came the *hongi*, that greeting - custom of immemorial Polynesian usage. Led by old-tattooed Mahutu, of the Waikato, the New Zealand Natives, men and women, advanced to their guests, and one by one they bent their heads and pressed their noses to those of their Island "tuakanas" and hand gripped hand, and the Maori welcome was complete.

These Cook-Islanders are hereditary sailors as well as hereditary minstrels—daring canoe-sailors in the olden days and smart schooner-men to-day. It was from Rarotonga that the historic canoes "Te Arawa," "Tainui," "Takitumu," "Matatua," "Tokomaru," and others took their departure for this new land; some of them, too, came originally from the Society Group, but called at Rarotonga. The name of the "Takitumu"—the canoe which brought the ancestors of the Ngaitahu, Ngatiporou, and Ngatikahungunu Tribes to New Zealand—is honoured to-day in Rarotonga; it is the ancient designation of a district in that island, and it was also the name given to a 100-ton schooner, built by Native labour on the communal co-operative principle at Ngatangiia Harbour, Rarotonga, and owned by the Natives, a "home-made" craft that a few years ago voyaged to Auckland over the self-same ocean track that her famous namesake, with Tamatea's adventurous crew of *tapa*-garbed brown sailormen, had taken six hundred years before. A few years ago, before steam ousted sails, when fleets of yacht-like Island schooners traded to the coral lands out of Auckland, the crews of these little fruit-clippers were often mostly South Sea men from Rarotonga, and Aitutaki, and Niue; and good sailor men they were. As handlers of boats in surfs and other dangerous sea-ways, no white man can equal these Natives. They are to be found all over the Pacific—born seamen and roving-men. Some of the Cook-Islanders, too, have for many years owned and sailed their own little schooners.

The islands of these Maoris—for they call themselves by the same race-name as their New Zealand kinsmen—were annexed to New Zealand seven years ago. They lie away up to the north-east; the most important island, Rarotonga, is a little over 1,600 miles from Auckland. The total Native population of New Zealand's little South Sea kingdom (including Niue and the northern islands) is a little over twelve thousand; the resident white people number not more than a hundred and fifty. The Cook Group contains an area of 150 square miles; Niue and the atolls outside the Cooks and under New Zealand's jurisdiction cover 130 square miles. In the Cook Group there are nine islands and islets, all with their immense natural breakwaters, the coral fringing reefs. Rarotonga is the seat of Government of the Cook Archipelago—and the centre of trade—a beautiful volcanic



THE AITUTAKI NATIVES.

island, with precipitous wooded basaltic peaks rising nearly 3,000 ft. above the sea. Rarotonga has an area of 16,500 acres, and a population of 2,100 Natives and about a hundred whites. Aitutaki is something under 4,000 acres in area, and is inhabited by 900 Maoris and half a dozen Europeans. Mangaia, somewhat larger than Rarotonga, has 1,500 Natives and eight whites.

The most interesting of all the visiting Islanders were probably the seven people from Mangaia. They brought with them, amongst other things, their curious ceremonial adzes of stone, mounted on pyramidal pedestals perforated with many *ruas* or holes, as shown in the picture of the group. They are perhaps more conservative than any other Islanders in the Group, these Mangaians. Their ancient religion and their history and their clan-songs furnished the major part of the material used in the Rev. Wyatt Gill's two classics of the South Seas, "Myths

and Songs of the South Pacific," and "Savage Life in Polynesia." Mangaia is a hilly island of upheaved coral, with some very remarkable scenic features—amongst them beautiful stalactite caves and grottoes, sharp rocky pinnacles, and cliffy heights ; radiating from the central heights to the sea are the picturesque wooded *taro*-planted valleys watered by little hill-born streams. Mangaia was anciently called Auau (identical with the name of Ahuahu Island, on the east coast of New Zealand) ; it was not long before Captain James Cook's visit to the island in the "Resolution" in 1777 (the first time that a white man's ship was ever seen by these people) that it obtained its present name, which is in full "Mangaia-Nui-Neneva" ("Mangaia Exceedingly Great")—pretty good for a map-speck only about thirty miles in circumference. Tamaeu, a chief of Aitutaki, who reached the island in a sailing-



THE NATIVES FROM MANGAIA ISLAND, COOK GROUP.

canoe which had been driven out of its course, is said to have been the first to confer the name upon it. The ancient and classic name of Aitutaki Island should be of some interest to New Zealand West-Coasters ; it is Ara'ura, which is identical with Arahura, the name of the greenstone-bearing river of Westland. This name was in all probability given to the river by a canoe immigrant from Aitutaki, very likely the explorer Ngahue.

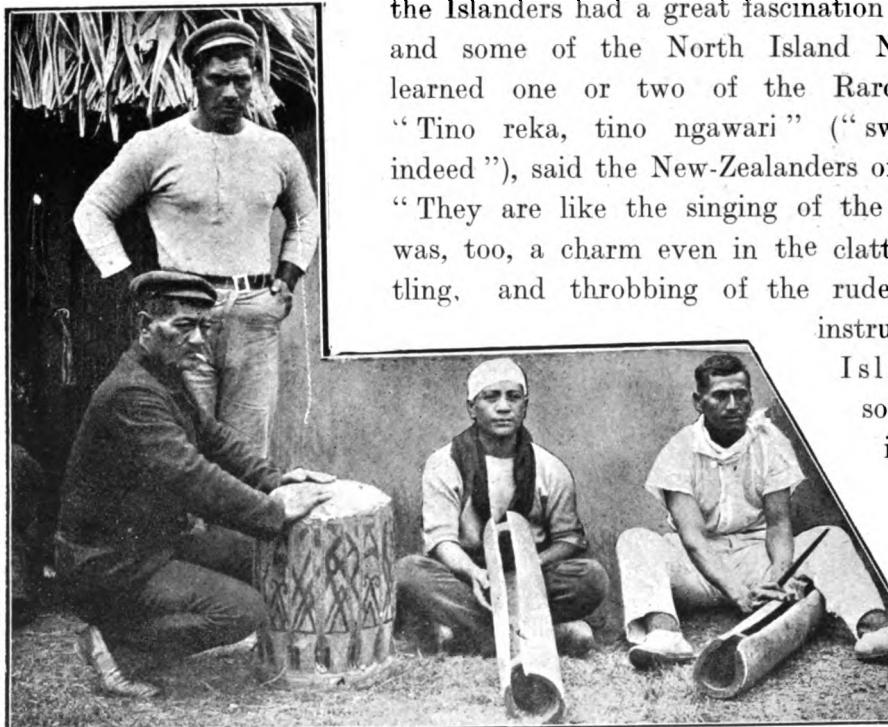
Colonel W. E. Gudgeon, C.M.G., a veteran of the Maori wars and an ex-Judge of the Native Land Court, is the New Zealand Government Resident Commissioner in the Cook Islands. His subordinate officers and Magistrates in charge of affairs at Mangaia and Aitutaki are Major J. T. Large and Mr. J. C. Cameron. Colonel Gudgeon visited the Exhibition in January, and was warmly received by the

Maoris at the pa, who greeted him as their *kaumatua* or elder, and the old comrade of their departed chiefs.

To the New Zealand Maoris the *tapa*-cloth fête-dresses brought down from the Islands by the South Sea people were of interest, for the *tapa* was the clothing of their ancestors before they discovered the land of the *Phormium tenax*. The Islanders' *tiputas*, the garments covering the upper part of the body, with a slit for the head, were made from the bark of the paper-mulberry tree or *auta* (*hiapo* in Savage Island), which is beaten out by the women with wooden mallets on wooden logs until it is beautifully soft and fine. One of the prettiest of Polynesian folk-stories is the nature-myth of Ina and her *tapa*-making. Ina, according to the Rarotonga legend, is the woman in the moon; she is the wife of Marama, the Moon-god. She is an industrious wife, always beating out *tapa* or hanging it up in celestial regions to bleach. The white clouds of the sky are the bleaching *tapa*; the beautiful bark-cloth garments when finished glisten like the sun. When Ina's *tapa*-beating stones fall they cause thunder, and when mortals see the shining and flashing of her bright new garments as she gathers them up they call it lightning.

The little song-and-dance dramas, the tuneful part-singing, and the monotonous but wonderfully rhythmic quick drum-drumming of the Islanders had a great fascination for the Maoris, and some of the North Island Natives quickly learned one or two of the Rarotongan songs. "Tino reka, tino ngawari" ("sweet and soft indeed"), said the New-Zealanders of these *himenes*. "They are like the singing of the birds." There was, too, a charm even in the clattering, and rattling, and throbbing of the rude Native wood instruments. To the

Islanders these sounds have their imitative onomatopœics, their regular beating and tapping-out of—



Tingiri-ringiri,  
Rangara-rangara,  
Anangirira  
Tiki-rangi-ti.

To the Polynesian ear it is the "apt alliteration" of the Voice of the Drum.

Amongst the action-songs and posture-dances of the Islanders some were interesting as being based on ancient mythological beliefs. The most remarkable of these was the performance of the "lifting song," for the separation of the Sky-Father and Earth-Mother by their children—a Native legend heard amongst every branch of the Polynesian race, from New Zealand to the Hawaiian Islands. Armed with their long barbed spears of ironwood, the Islanders imitated, with many a heave and thrust, the levering away of Rangi, the Sky, from Enua, the Earth, on which it once lay close, and the propping of it up aloft so that man might have freedom and light for ever onwards. This was the incantation chorus they sang, to the pantomimic heaving-action and the rattle of the wood-orchestra



THE MANGAIA ISLANDERS, WITH THEIR CEREMONIAL AXES.

—the Aitutaki song for the herculean Ru-te-Toko-Rangi (Ru, the Sky-lifter), who was the offspring of Rangi and Tea (Light) :—

Kii ana mai koia ko Ru-taki-nuku,	Sing we of Ru-taki-nuku,
Koia tokotoko o te Rangi—i-i!	Whose mighty strength the heavens raised
Rarakina te Rangi—e!	And ever fixed on high.
E tau rarakina te Rangi—e!	Hence is he called
Koia Tokotoko a ia i te Rangi—e!	The Proprietor-of-the-Sky.
Kua peke te Rangi	The heavens are heaved afar aloft
E te tini atua o Iti—e!	By Iti's myriad deities.

"The many gods of Iti" ("Te tini atua o Iti") were called upon by Ru, the Sky-lifter, to aid him in his great task. Iti, or Whiti, refers perhaps to Tahiti, or Fiji, or more probably to a Hawaikian Fatherland far more remote.

This chant appealed with peculiar interest to the New Zealand Maoris, who quickly picked up the words and time-actions, and greatly amused their fellows at

night by imitating the capers, the drumming, and the singing of the Island men and women in this and similar performances. The "lifting song" was rehearsed in camp by a party of Nga Rauru Natives from Whenuakura and Waitotara, on the west coast of the North Island, who afterwards performed it on the town-marae at Parihaka, the home of the Prophet of the Mountain, the venerable Te Whiti, to the diversion and admiration of Taranaki. Another also learned and sung by these Maoris was a pretty Aitutaki poem-fragment, frequently sung by the Islanders, beginning—

Te pua miri,  
Te pua mika,  
Te viki ua ra i te mataki—e!  
Te naupara ra—e—  
Te aro motu—e—  
Aweawe te pua o te inano—e!

This song was a modern one composed at Aitutaki, likening the gay dresses of an Island lady to the beautiful blossoms of the *pua* (*Fagraea berteriana*), a flowering-tree common in the Cook and Society Islands, and to other Island flowers.

Before leaving the *pa* on their return trip to the Cook Islands, the chief of the Mangaia party, Tangitoru, formally offered the Maoris of New Zealand, as a token of friendship and kinship between the two peoples, a piece of land of his own on the shores of Mangaia, about two acres in extent. This, if accepted, would always be held by the Maori people as a *tauranga* or landing-place, and any New Zealand Maori visiting the island would have a right to reside on the land. The Islanders were anxious that their New Zealand friends should pay them a return visit. The Maoris in the *pa*, in an address to their departing friends, accepted the kindly gift of land from Tangitoru, and, being asked to rename the spot, they bestowed upon it the title of "Te Koha-ki-Niu-Tireni" (The Present to New Zealand). A pleasant finale to an interesting and historic racial union.

#### THE NIUE-ISLANDERS.

The Native visiting party from Niue, or Savage Island, numbered seven—three men, three women, and a child, of whom the principal man was Frank Fataaiki, son of the late King of that island. The Niue people occupied a little *kainga* of their own in the compound alongside the Maori *pa* allotted to the Island tribes. Being so few in numbers, they did not give any public performances, but they occupied themselves in building a typical Niue thatched dwelling with material brought from their distant home, and in making various articles representative of the industries of the island. Niue is celebrated throughout the Pacific for its beautiful hats plaited out of the fibre of the *fa* plant (screw-pine), and for its pretty fans of various designs; these and model outrigger canoes, &c., were made by the Islanders, and placed for sale in the Cook Islands Court in the Exhibition.

These Niue people came a long way. Their island, lying all by itself, is about 1,400 miles north-east from Auckland in a straight line, but to reach New Zealand they had first to voyage to Tonga (Friendly Islands) in a schooner, and there take passage in the Union Company's steamer "Atua" for Auckland. On their arrival at Port Lyttelton they were met by Mr. Bishop, S.M., the Chairman of the Maori Committee, Mr. McGregor, and several people from the *pa*, and on their entry into the village *marae* they were welcomed with speech and song by the Maoris and Rarotongans.

Wearing European dress, the Niueans were thoroughly civilized-looking. Indeed, they are a far remove from their fierce ancestors, who attacked all white people attempting to land on their shores. The name of "Savage Island," now a misnomer, was well earned in the past. The Islanders strongly disapproved of the whites or *papa-langi* (literally "breakers-through-the-sky"). Captain Cook, who discovered the island in 1774, in the "Resolution," made friendly overtures to the Natives, who answered with menaces of the utmost ferocity. "All endeavours to bring them to a parley were of no purpose, for they advanced with the ferocity of wild boars, and threw their darts." One of the spears thrown narrowly missed Cook himself. The men were naked save for a waistcloth; they carried spears, and clubs, and slings; many of them had their bodies partly painted black. Little wonder, therefore, that Cook as he sailed away named the place Savage Island. John Williams, the missionary pioneer, had an equally unfriendly reception when he visited the "Isle of Savages" fifty-six years later in the little schooner "Messenger of Peace." It was 1848 before the emissaries of the Christian missions got a footing on Niue.

The island itself is the largest in New Zealand's tropic possessions; a solitary mass of upheaved coral, about 200 ft. in height, and densely wooded. It has an area of about a hundred square miles, and a Native population of 4,300, more nearly allied perhaps to the Tongans and Samoans than to the Cook-Islanders, from whom they are separated by six hundred miles of ocean. It is a fertile, productive island, but its surf-beaten shores are without a harbour, and it is out of the track of the regular Island steamers. On its long, irregular, fringing reefs and on the bold sea-worn cliffs the great inswell of the Pacific, rolling before the strong south-east trades, continually thunders, and flings skywards clouds of spray. Landwards through the sea-born mist the voyager sees forests of tall cocoanuts waving their long feathery fronds in the wind; the white houses of the island people are hidden from view by the tropical vegetation. The Natives live in eleven villages, which are very clannish, like the rival districts of Samoa. In the old days these villages "took it out" of each other with club and spear; nowadays, being highly civilized, they make it warm for one another in the way of commercial competition, and in outdoing each other in the annual contributions to the London Missionary Society. There is a New Zealand Government Resident Commissioner (Mr. H. G.

Cornwall) on Niue. The principal commercial industries of the Natives are copra-making, cotton and fungus gathering, and hatmaking. They make, too, very fine *tapa*-cloth, or *hiapo* as it is called on Niue. The mallets of the cloth-beaters are daily heard on the beach, as the women patiently pound away at the bark of the "cloth-tree"; then, after bleaching, the *hiapo* is taken up on to the shady village-greens, and all sorts of intricate and tasteful designs (many of them pictures of tree-foliage) are traced on its clean white surface with the indelible pigments obtained from the candle-nut. Some good specimens of this Native cloth were shown in the Cook Islands Court.

During the stay of the Niue-Islanders in the Exhibition *pa*, one of their number, the wife of Frank Fataaiki, gave birth to a son—the second Native child born within the walls of "Arai-te-uru."



## ON THE MAORI ART OF WEAVING CLOAKS, CAPES, AND KILTS.

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### INTRODUCTION.—THE MAORI ART OF CLOAK-WEAVING.

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[By TE RANGIHIROA, M.B., Ch.B. N.Z.]

THE flood of blankets, prints, and cheap clothing introduced by civilized man has overwhelmed the picturesque clothing of the neolithic Maori, and few varieties have survived this deluge. The young Maori women of the present day are too engrossed in striving to assimilate the teaching of the European schools to ever master the intricacies of weaving *kakahu Maori*, which demands above all things care and patience, two qualities sadly lacking in modern times. The art is therefore confined to a few dames of maturer age who had the good fortune to be taught weaving before their elders passed away to join the multitudes in the Reinga-land. Previous to the advent of the European the art of weaving formed one of the highest accomplishments of the Maori female aristocracy, for fine garments were not only necessary for personal wear, but for barter, and the numerous presentations rendered necessary by many of the ancient customs. In Taranaki, once famous for its flax (*Phormium tenax*) and fine garments, the inevitable war which accompanies a civilized nation's colonizing efforts left the Natives no time to weave anything but the rough rain-cloaks used in the military campaigns. Consequently, in Taranaki at the present day the art is confined to this variety of cloak. Other districts were more fortunate—for instance, the Urewera country—concerning the weaving of which Elsdon Best has contributed an invaluable article on the *whare pora* in the “Transactions of the New Zealand Institute.” Wairoa, in Hawke's Bay, was also famous for its *kakahu*.

Another district where the art still flourishes is along the Whanganui River. The Whanganui tribes have always been skilled in weaving *kakahu*, particularly the Nga Poutama Hapu (sub-tribe) of Karatia. The Whanganui are an *iwi kai taonga* (a tribe given to making presents) hence the great stimulus to the *kakahu*-weaving industry. There are still alive in the district about six women who were properly initiated into the mysteries of weaving by the *tohunga* (priests) of old. The priests with their rites and incantations have passed away, but the art remains to some extent. Many of the young women have learnt the art, and more garments are woven in Whanganui than in any other part of New Zealand. To see some of the younger women deftly weaving some of the ancient coloured *taniko* patterns is a refreshing sight in these days, when the Maori is almost destitute of his ancient skill and art.

It is because the Whanganui varieties and nomenclature in many cases differ from those of the Tuhoe Tribe described by the maturer judgment and abler pen of

Mr. Best, that I have attempted in these notes to place their methods on record. The incantations have been lost for ever, but perchance the saving of even a remnant of the art from the abyss of things forgotten may serve a useful purpose.

#### INITIATION OF THE WEAVER.

On a girl reaching the years of discretion, when she could assimilate the things taught her, it was deemed time to formally teach her one of the most important duties of her sex, the art of cloak-weaving or *whatu kakahu*. From her childhood she had seen her mother and her near relatives engaged in this occupation, and doubtless knew many of the various steps in the process, but this was not sufficient. In babyhood, immediately on the drying and dropping-off of the navel-cord, she was taken to the stream and the *tohi* rite performed over her. In the incantations repeated by the *tohunga* the gods were implored to be favourable, that she might grow up to womanhood and be skilled in the tasks pertaining to her sex. Thus, as it were, the seed was sown a few days after birth, but it was not until after the second ceremony had been performed, in the years of puberty, that the full significance of things could be understood, that this seed took root and rapidly grew into the tree of knowledge.

The rite of initiation in the *whare parapara*, as it is known to the Whanganui, did not work an absolute miracle in enabling the *tauira*, or novice, to emerge from utter ignorance into a full knowledge of all the intricacies of the art of cloak-weaving, but it opened the eyes of the understanding and enabled the *tauira* to grasp and retain what she was taught by the *tohunga* and what she was subsequently to see and learn from others. In the words of Pukehika, " *Ka tuwhera nga kanohi, ka hihiri te ngakau* " ("The eyes were opened, and the mind quickened"). Elsdon Best, in his article on the *whare pora* (Trans. N.Z. Inst., Vol. xxxi., p. 625), enters fully into the mode of initiation amongst the Urewera; but as there are one or two points of difference in the procedure of the Whanganui Natives I will describe briefly the rite as observed by them.

The pupil is taken by the *tohunga* to the stream, and the appropriate *karakia* repeated. This rite makes the pupil *tapu*, and she is now fit to go through the sacred rite of initiation. The *whare parapara*\* having been entered, the pupil is seated before the *turuturu*. The *turuturu* is a pointed rod, often carved at the upper end, and two pairs are used in making a mat of full size. In the initiation ceremony probably only one pair would be used. Of the two, the left *turuturu* is the more important, it being planted in the ground first, as the weaving is done from left to right. In peace or in war the left side was the more important. In peace the weaving commences there; in war it was the left foot which was in advance, and took a firm grip of the ground in the act of striking, and it was the left hand which seized the conquered enemy by the hair, ere the *mere* in the right hand dealt

\* *Whare parapara*: A free translation would be " school of weaving " or " home of weaving."

the death-blow. The *tohunga* always commenced the weaving. The first weft, or *aho tahuhu*, was woven upon the left hand. It could be completed thus, or the free end of the *aho* tied to the left *turuturu* after the weaving had made some progress. The process of weaving the *aho tahuhu* was known as *kanoi* or *tauia*. " *Ma te tohunga e kanoi te kahu.*" ("The *tohunga* must *kanoi* the *kahu*." ) Having woven the required length, the free ends of the *aho* were drawn round the right *turuturu* and drawn taut. The *tawhiu* of the *Ureweras*—i.e., an *aho* which is drawn taut between the *turuturus* ere the weaving commences—is unknown to the Whanganui tribe, but is represented by the *aho tahuhu*. The word *tawhiu* with the latter is a step in dying the fibre with the *toa*. The *tohunga* now commences the sacred weft, or *aho tapu*. He then places the threads in the hands of the *tauira*, who completes the row. The *tauira* is now under the influence of the guardians of the *whare parapara*. Her eyes have been opened and her understanding quickened. What she sees she readily grasps, and what she is taught she never forgets. She can proceed with the weaving of the garment, which, however, is never completed. She usually stops at the first *poka* or bias. This garment is a very small one, and is made solely for the sake of practice. It is called a *kawhatuwhatu*. The teaching for the day being over, the *tauira* is given a leaf of *puha* (a herb), warmed in the fire of the *tohunga*, to bite, the priest reciting his *karakia* (charm) during the act. This part of the ceremony removes the *tapu*, to enable the pupil to take food. Were she to take food without this part of the ceremony being performed, disaster would befall her, in that she would forget all that she had been taught, and would never become skilled. The *kawhatuwhatu* or pattern-piece was then thrown over the *paepae* or latrine with the appropriate *karakia*, and the last remains of the *tapu* dispelled. The woman could now commence her first real *kahu* or fine garment. On its completion it was usual to give it to the *tohunga* who had initiated her. It could be given to a relative, but must never touch the skin of the weaver—i.e., she could never wear it herself, or give it as a *kaitaonga*, or gift, for which something was returned. It had to go right away and never come back. Failing this the gods would draw over her mind the veil of forgetfulness, and the words of knowledge would return to the *tohunga*. " *Kahore e tika kia hoki mai ki tana kiri, kei ngahoro katoa nga mahi; ka hoki nga korero ki te tohunga.*"

Men were often initiated in the same way, but they specialized more in the direction of the *taniko*.

#### NATIVE FLAX, THE RAW MATERIAL.—HOW IT WAS CULTIVATED.

The Maoris recognized many varieties of flax (*Phormium tenax*), and each variety had its special name and its particular use. As each tribe had its particular nomenclature, I propose to speak of the varieties known to the Whanganui Tribe. The parts where the flax grew plentifully in its uncultivated state were near the

mouth of the river at Koko-huia and at Okui, and in the Matarawa Valley. The only flax that grew wild in the upper part of the river was a thin-bladed variety known as the *wharariki* (*Ph. cookianum*). This kind contains very little fibre, hence the fibre-bearing varieties had to be cultivated. Considerable trouble was taken in the cultivation of flax, each family having their own *pa harakeke* or flax-garden. Suitable ground having been prepared, the roots were planted perhaps in groups of four, slanting slightly outwards from one another. These would all grow up into one large bunch, which was called a *pu harakeke*. The next *pu* would be planted about 8 ft. away. The bunches were arranged in rows of from six to thirty or so. Each row was called a *pa*, a term which was also applied to the whole collection in the phrase *pa harakeke* or *pa muka*. The *pa harakeke* was carefully weeded, and as the various roots sprouted up earth was banked between the divisions of the bunch. Flax grows from a central leaf or *rito*, which, as it grows older, encloses and gives up its place and name to another *rito*. The open part of the blade is called the *aroaro* or front, whilst the closed ridged side is called the *tuara* or back. The *aroaro* of the *rito* and of the sheath always face each other. From the *rito* as a centre the sheath is alternately on one side and then the other, and with each growth of a new *rito* the leaves are forced one step further outwards. The older leaves on the outside begin to fall down and dry. Thus, in each cluster of leaves about a *rito* we have, working outwards from the *rito*, the ensheathing leaf, a good strong upright leaf, the *aho*, and an outer older leaf somewhat worm-eaten in appearance and beginning to bend over. This is the *taumai*. Then came the old leaves which have fallen to the ground, and are known as the *koka*. This order is the same on either side of the *rito*. There may be two *aho* on either side. Each cluster will thus consist of from seven to ten leaves, and is known as a *tapa*, the single leaf being a *rauwha*. In cultivating flax the *koka* or dried-up leaves were carefully removed. In cutting for the fibre only the *taumai* and the *aho* were cut; the *rito* and sheath were never touched, but were allowed to grow up for subsequent use. The careful tending and cutting of the Maori offers a striking contrast to the present barbarous methods of the white man. The stalk bearing the flowers, the *korari*, is not permitted to grow, as it exhausts the plant too much. Thus there was no chance of cross-fertilization and propagation by seed. The original plants up the river were grown from roots. Mr. G. McGregor tells me that in all his researches in connection with flax he can find or hear of no cases in which the Maoris grew from seed. Consequently, the same roots have been growing up the Whanganui River for several generations, and the varieties have never altered. The stalk or bulb of the flax-leaf is the *putake*, and the part which opens out is the *kauru*. The fibre of the *putake* is poor. The tips of the *kauru* vary, some varieties being very pointed, and others blunter. In the former the fibre runs out very thin towards the end, whilst in the latter it is more likely to be thicker and more even throughout. The length of the *kauru* and the character of the tip thus influences the fibre, and determines the value of the variety. The following are the chief varieties:—

*Katiraukawa*.—This is the very best variety for mat-weaving purposes. It has a good long erect blade, which gives a thick strong white fibre of silky appearance. The fibre from the *aho* blades is the best, as in every variety, and is used extensively in making the *parawai* mat. The fibre of the older blades or *taumai* is not so white, and is stained for the *taniko*, as staining hides its fault, which is only one of colour. The fibre is obtained by scraping with a mussel-shell (*Mytilus*), for reasons to be explained later. This famous flax is mentioned in song, and the name is not confined to Whanganui, as it is mentioned in a *tangi* by Toka of Ngati Tama (Te Arawa).

*Mataroa*.—A soft but erect blade, the *kauru*, however, being short and the *putake* long. The fibre is very white and silky, but short, on account of the short *kauru*. The leaf-tip being blunt, the fibre does not thin off towards the end, but is of even thickness and strength throughout. It was known on the east coast as *takiri kau*, from the ease with which it could be stripped, *takiri* (see later). This is another *parawai* flax, but the strands are too short for weft-threads. It is a very easy flax to work.

*Rauehu*.—A drooping variety, with a good white fibre. Used in *parawai*-weaving, but only when the first two are not obtainable. It is better for *koroai* mats.

*Huhiroa*.—A long leaf with a long fibre, which, however, is dirty, and stains easily when hanked. Thus it is not used in *parawai*, but more in the *koroai* class of mats. Also stained for use in *taniko*.

*Taeore*.—Harder to prepare fibre, which, however, is good, and of all-round use. It is only used where the others are unobtainable.

*Raumoa*.—A very long blade with good fibre, which has the drawback of turning dark. Hence it is of no use for *parawai* unless when stained for the *taniko* border. It is in great demand for floor-mats. It is supposed to have been brought originally from Ngapuhi to Hauraki, thence to Whatiwhatihoe in Waikato, from whence it was brought to Taupo and Whanganui during the time of the King movement.

*Parekoritawa*.—This is the variegated variety which gives a splendid white fibre, useful in every way. It is not common in Whanganui. It is credited as having come from the Taranaki Ngati Awa, whilst others hold it is from Rangitikei, and then again from Ruapehu, having belonged to Parekoritawa, of Ruapehu, and Hine Parete, the witch wives of Tama-Kino.

*Wharariki* (*Ph. Cookianum*).—A short drooping thin leaf, containing a little of a very thin silky fibre. This variety grew plentifully upon the cliffs of the Upper Whanganui. It is used for kits and floor-mats, and for this purpose is largely cultivated by the Nga Rauru. It is useful to form the "thrum" of rain-cloaks.

*Tarariki* is a variety of the above.

## PREPARATION OF THE FIBRE.—THE NATIVE DYES.

The flax having been cut, the *aho* blades are kept together for the good fibre, and the *taumai* blades for the other class. There are two methods of separating the fibre. In both cases the *tuara* or back of the blade is partly cut with a *pipi*-shell. This is known as *whakapaki*: “*Ka whakapakia te tuara o te harakeke ki te pipi.*” This is to cut through the epidermal tissue down to the fibre which lies near the *aroaro* of the blade. In the *tika* or *haro* process a blunt mussel-shell is scraped along the *aroaro* from the cut, and the back part of the blade, the *tuara*, peels off, leaving the fibre. The *putake* is done first, then the *kauru*. The actual scraping with the shell is also known as *kaku*. Sharp-pointed blades such as the *katiraukawa*, where the fibre runs out thinner and weaker to the tip of the leaf, are carefully done in this way to prevent scraping the fibres. The other method is known as *takiri*. Here the cut part of the blade is held in the left hand with the *tuara* down, and the fibre, as it were, torn off. This is much quicker than the *haro* process, but can only be done with a strong, even fibre, as in the case of the blunt-tipped *mataroa*. A pointed flax would break off, owing to the thinning of the fibre. The *mataroa* obtains its East Coast name of *takiri kau* from the ease with which it is possible to *takiri* it. The epidermal tissue, *kakoa* or *tutae*, is scraped off the front part as well, and then the fibre soaked in water, and scraped again and again with the mussel-shell. These washings and scrapings remove the *kakoa* and colouring-matter, making the fibre clean and white. The fibre or *muka* is then dried and hanked (*whakaio*). The hanks are rubbed between the hands (*komiri*) to separate the fibres (*kaka*). The washed *muka* can now be used for various things. For the *aho* or weft-threads three or more fibres are taken in the left hand, and then an equal number reversed with them, the thicker *putake* end of half the total number corresponding with the thin *kauru* end of the other half, and so insuring an even thread when rolled together. This is done upon the lower half of the thigh, and is known as *miro*. The fibre of the *mataroa* being of even thickness throughout, it is not necessary to *miro* it. In preparing *muka* there are two things to consider—(a) colour and (b) softness. The washed unbeaten fibre has a brilliant silky colour and appearance, very pleasing to the eye, but rough to the skin. The beaten flax has a duller colour, looking more like wool; but what it suffers in appearance it gains in its softer feeling to the skin. Now, the *parawai* has no ornamentation to conceal the body of the mat; therefore the unbeaten flax is used entirely in its manufacture for the warp (*whenu*) as well as the weft (*aho*). The bodies of the *koroai* and its kindred mats are covered with ornamentation, hence a duller colour makes no difference, so the softer feel of the beaten flax is the thing desired. To render fibre softer, it is first twisted into threads (*miro*), then soaked in water for twenty-four hours or so, and beaten whilst still wet upon a flat stone with a special *patu* or club made of ordinary stone, greenstone, or *maire* wood. After being beaten

sufficiently, the fibre is rubbed between the hands (*komiri*) to give it a wavy appearance. When it does not straighten out again, it is sufficiently done. This beaten fibre forms the *whenu* threads used in the *kaupapa* or body of most of the *kahu*.

For the coloured borders of *parawai*, &c., the fibre is dyed—and this brings us to further preparations. The groundwork of these borders is black. Hence fibres of a dirtier colour, which could not be used in the body of other garments, can be used freely here, to be dyed black, red, or yellow. For this purpose the *muka* from the *taumai* of the *katiraukawa* and better varieties, and all the *muka* from the *huhiroa*, *raumoa*, &c., is used.

*Black*.—The prepared, washed, unbeaten fibre is used in all cases. The bark of the *hinau* (*Elæocarpus dentatus*), *tawai* (*Fagus fusca*), or *takou* (*Sp. incert*) is pounded and boiled. The boiling in ancient days was done (1) by putting red-hot stones into a *kumete*, or vessel containing water, or (2) placing the *kumete* containing the bark and water in a *hangi*. The *kumete* was elevated on a small *whata* or platform to prevent its being scorched. Cold water could be used, but the bark had to be thoroughly pounded, and the fibre soaked for a considerable time. This preparation is called the *wai tumu*. The soaking of the fibre is to prepare it for receiving the dye, and to fix the colour. It is thus a mordant. The fibre must be thoroughly dry before staining, or the stain will not hold. The stain is obtained from the black mud of certain swamps known as *repo parapara*. The *toi* mat and some of the rain-cloaks are trodden into the mud; but the fibre for the finer mats was carefully rubbed with handfuls of the mud several times. Without treating with the *wai tumu* the stain would not hold. It is now washed and dried, and remains a deep black, which never washes out. Mr. Hamilton mentions in his "Maori Art" that the fibre is apt to rot. This is the reason the fibre for good mats is not trodden into the mud, as it would be much more liable to decay. The black fibre is known as *karawai*, and also as *parapara*, from the mud. The fibres used for the warp-threads need not be deeply stained, but the *aho* had to be well done.

*Toa*.—A red-brown colour was obtained from dyeing with the bark of the *toatoa* (*Phyllocladus*). The bark is bruised and boiled as with the *hinau*, and the fibre soaked in the boiling mixture. It is frequently looked at until it reaches the desired colour. The next step is to squeeze out the water, and *tawhiu* the fibre in the powdered charcoal of some *toa*-bark; this deepens the colour. *Tawhiu* is to turn and draw the fibres through the charcoal. In these degenerate days the charcoal is prepared by burning the bark in an iron pot. The dyed fibre takes the name of *toa* from the bark. The bark which gives the deepest dye is obtained from the older trees with a thick bark which grow in sunny sites.

*Karamu*.—The bark of the coprosma gives a deep-golden colour, especially the older shrubs growing in sunny places. The *karamu raunui*, or large-leaved coprosma, known on the East Coast as the *raurekau*, is the species used for dyeing. The

smaller-leaved coprosma, or *karamu rauriki* is not used by the Whanganuis. The bark is boiled as with *toa*, but the *tawhui* process is not used.

This completes the list of Maori colours.

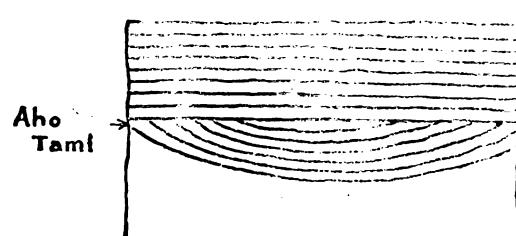
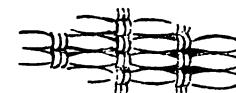
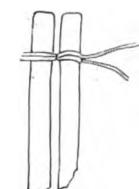
#### PROCESS OF WEAVING.—THE KAUPAPA.

The use of the upright sticks or "turuturu" has been described in the initiation ceremony. These are the sorriest apology for a loom, and it is surprising that the megacephalic Maori, so far advanced in many of the arts of the Stone Age, should in this particular case have remained on the threshold of progress. The twisting of the fibre upon the bare thigh without any search for some mechanical contrivance to lessen labour is also very primitive, offering a marked contrast to their great knowledge of carving, house and canoe building, fortification, &c.

Most garments were commenced from the lower end, or *remu*. The weft-threads of garments were termed *aho rua*, or double thread. In reality there are four threads in a weft, two passing behind and two in front of the vertical warp, or *whenu*. The two posterior threads are separated, and both the anterior threads passed between them, and continued to the back to form the posterior threads to the next warp-thread, whilst the separated posterior threads are now drawn close to form anterior threads to pass in turn between the posterior threads. Each warp-thread is thus taken up separately by hand, placed between the anterior and posterior double weft-threads, and the weft-threads drawn tightly around it to secure it in position in the manner described above. This continues until the requisite width is reached, when the free ends of the weft-threads are attached to the *turuturu* stakes to draw the garment taut. In ancient days the dried tattooed head of an enemy was often affixed to the top of the *turuturu*, and the dames of old would relieve the monotony of weaving by reviling the head that in days gone by had wrought them grievous injury. The next weft-thread was woven in exactly the same way, except that the warp-threads being in position, the work went on more speedily, but, as before, each individual warp-thread was separately

encircled by the weft-threads. After weaving about the length of one *whati-anga*—the distance from the outstretched mid-finger to the elbow—the first bias was put in. In these, the weft-line was commenced nearer the middle of the garment and ended the same distance beyond the middle; the next was also a short weft,

but approached nearer the edges of the garment, as shown in the figure. These bias wefts are called *aho poka*, and the first weft to reach from side to side of the garment after the short wefts is termed the *aho tami*, or covering weft.



The garment having been commenced from the lower end, this *poka* will correspond with the curve of the buttocks, and is called the *poka whawhati*. In the *poka whawhati* there are about ten short wefts, and then the ordinary full-length wefts are continued. When the length of the garment has reached the *wahanga* (from finger-tip to the mid-line of the body) another bias is put in. This is the *poka o te ua* (the bias of the neck), but really corresponds to the bend of the shoulders. The number of bias wefts is usually four. We notice in this how the Maori keeps to even numbers, for odd numbers were considered very unlucky. The object of the bias is to make the garment follow the lines of the human body, the body of the cloak being larger—that is, fuller—in the middle than at the sides, whilst the ends curved in along the shoulders and the buttocks. This caused the Maori garment to hang gracefully. A badly made garment without bias wefts can always be noticed when worn, and a Maori observer will say, "That *kakahu* (garment) hangs like a blanket. *Kahore he poka*" ("There are no bias wefts"). This describes the weaving of the body of the garment, which is called the *kaupapa*. The upper edge of the completed garment is called *te ua*, the lower *te remu*, and the side edges *nga tapa* or *nga kaokao*. The ornamentation of the garments varied, and these differences will now be described; but the weaving of the body, as described above, holds good for most varieties.

#### VARIETIES OF "KAKAHU."—THE KOROAI (OR KOROWAI) MAT.

The first division of *kakahu* may be termed the *koroai* division. The Whanganui tribes make six varieties :—

1. *Koroai*, also called *potopoto*.
2. *Koroai*, also called *karure*.
3. *Ngore*.
4. *Koimutu*.
5. *Momotu*.
6. *Tawakawaka*.

The warp-threads of all these varieties are well beaten and rubbed between the hands (*komiri*) until soft and wavy—*kia maene ki te kiri* (to be soft to the skin).

*Ornamentation.*—(1.) The word *whakairo* is usually applied to wood-carving, but is also applied to some of the ornamentation of garments, especially to *taniko*, to be described later. The *whakairo* of the *koroai* class of garment is not very elaborate. There are a few simple patterns, and the interest attaching to them is that they are ancient, and probably show the commencement of the art of ornamenting the sides and lower borders of garments. The term applied to the *koroai* patterns of *whakairo* is *paheke*.

(a.) *Whiri*.—Black threads were plaited along the wefts for a width of about three or four inches along the whole length of the side borders and the full length of three or four lowest wefts. This made a series of parallel black lines.

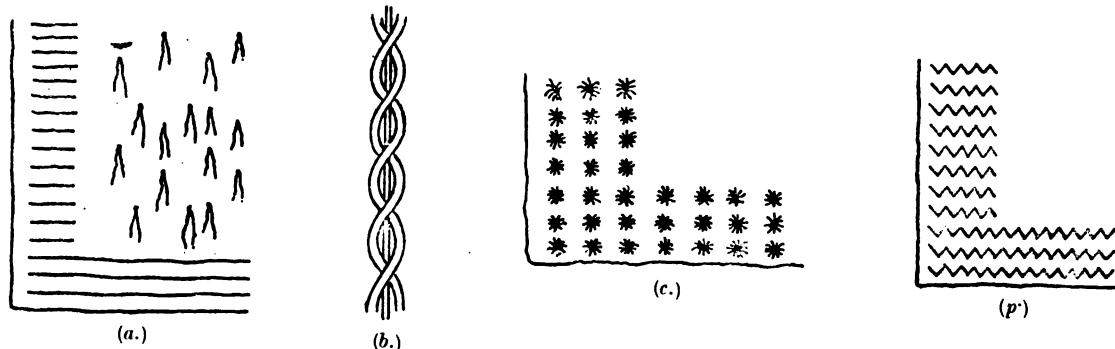
(b.) *Karure*.—This is exactly like the *whiri* above, but the black threads were loosely plaited, giving a different appearance.

(c.) *Pukupuku*.—Black or white loose threads are twisted around the finger, and three or four of the little balls so formed are placed along the wefts at the edges and lower border. These little balls are termed *pukupuku*.

(d.) *Paheke*.—It is this pattern really that gives its name to all these ornamentations. Dark-coloured threads are arranged in various zigzag patterns. The points of the angles are secured by the weft-threads.

Many *koroai* are devoid of these patterns.

(2.) Hanging threads : The outer surface of *koroai* are ornamented with black threads a few inches long, which are named *hukahuka*. These tags consist of double twist done by rolling the fibre upon the bare thigh. To get a close twist the two



lots of fibre are rolled separately upon the thigh by a downward and outward movement of the palm, whilst an upward or inward rolls these two strings over one another, making a close double twist. This process is known as *ta-matau*. If the reverse is done—i.e., the first movement is upwards or inwards, and the second down or out—a loosely plaited thread is obtained. This process is *ta-maui*, and the thread a *karure*, whereas the closely plaited thread is known as *potopoto*.

1. *Koroai* or *potopoto*.—The body of the garment is made in the usual way, but black tags (*hukahuka*) are attached to the outer surface at regular intervals. These are closely twisted (*ta matau*), about 4 in. to 6 in. in length, doubled and knotted at the ends. They are attached whilst the mat is being woven along every second or third weft. They are called *potopoto*, and give the garment its other name. At either edge is a double twisted thread to which the weft-threads are attached. The warp-threads are left long at the neck for the distance of one *whatianga* (lesser span from the tip of the forefinger to the thumb) from each side, whilst in the intervening part the warp-ends are plaited with a threefold plait. On the second weft-thread from the upper border tags are placed thickly along its entire length for ornamentation. This is called the *kurupatu*. Any of the *paheke* patterns could

be used to ornament the sides and lower edge. The women of the present day will persist in using wool for these patterns. The warp-threads (*whenu*) are white, but sometimes black is also used to make a body with black and white stripes.

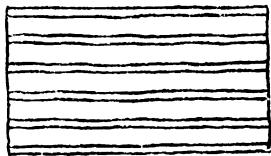
2. *Karure*.—This is a *koroai*, but the hanging tags (*hukahuka*) are twisted in the *ta maui* manner, thus giving the name of *karure* to the garment. To the uninitiated the tags look as if they were all unrolling.

3. *Ngore*.—Instead of hanging tags, the outer surface is studded at wider intervals with black knobs or *pukupuku*. The threefold plait of the upper border is usually continued to the neck, whilst the *paheke* ornamentation is not usual.

4. *Koimutu*.—The weaving is the same as the others, except that instead of tags black threads are run along the weft-threads to form black rectangles upon the outer surface. These black rectangles are known as *koimutu*, hence the name of the garment. The triple plait of the neck is usually continued to the edges.

5. *Momotu*.—This differs only in the ornamentation of the outer surface. Black fibre loosely twisted is carried along the weft-threads in loops about an inch long. The ends of the loops may be afterwards cut so as to make short tags, or they may be left as they are. These tags overlap each other closely so as to form a black *kahu* of very good appearance. The tags may be in alternate rows of black and white, giving the garment a striped appearance termed *kuira* by the Maori.\*

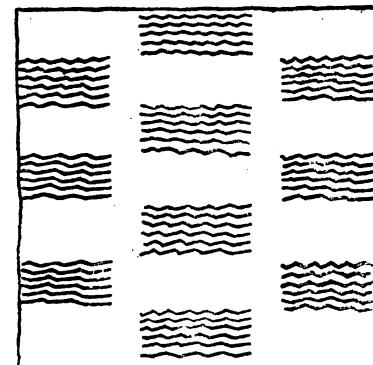
6. *Tawakawaka*.—This is exactly like a *koroai*, but the weft-threads are alternately wide and close. The ornamental tags are attached in the usual way.



The above all represent dress garments used by persons of rank on state occasions. They were termed *kakahu tu tohu*, and were much desired and sought after by the fashionable Maori of ancient times.

With this division may be described a commoner *kahu* used as every-day clothing, especially by the women. This is the *parakiri*, an ordinary *kahu* made in the same manner as above, but entirely devoid of ornamentation. It was, however, sometimes made in the same way as a *paepaeroa*, to be described later. Thus, in the first variety there were two *poka* (bias) and the wefts ran horizontally, whilst in the second there were three *poka* and the wefts ran vertically when the garment was worn.

\* This term *kuira* is not known to us as a genuine Maori word. It seems to be the Native rendering of the English word "quilt," and used to denote stripes, &c. Hori Pukehika admits that it is probably English.



## TANIKO WORK AND THE PARAWAI DIVISION.

Some of the finest *kakahu* in Maoridom come under this heading. Amongst the Whanganui Natives all fibre *kakahu* with a plain white body but highly ornamented *taniko* borders are called *parawai*. There are five varieties of *parawai* :—

1. *Patea*.
2. *Tawakawaka*.
3. *Kapakapa*.
4. *Huaki*.
5. *Paepaeroa*.

We now begin to use the dyed fibre in the weaving of the embroidered borders or *taniko*. This forms one of the highest developments of Maori art, and shares with the wood-carving the name of *whakairo*. There are a variety of complicated patterns worked in black, reddish brown, yellow, and white. Various tribes had their own patterns, but I will here confine myself to the more important ones used in Whanganui.

The weaving of the *taniko* differs greatly from that of the body of the cloak. The warp-threads (*whenu*) are black. Fibre when dyed black is called *karawai*, but when rolled into threads for weaving the *taniko* they become *whenu* or *kahuki*. These warp-threads are doubled over, and a weft-thread run along in the usual way. If the garment to be woven is to have *taniko* at the sides these black *whenu* are attached along the sides as the body of the mat is being woven, the weft-threads being attached to them in the same manner as to the double plait at the sides of the *koroai*. The black *whenu* stand out at right angles from the side borders of the *kahu*, which, when completed, has black warp-threads also fixed to the lower border of the garment. The *taniko* borders of the *kahu* are the last part to be worked. The black warp-threads being in position, the lower border is woven before the sides. Let us suppose that the four colours, black, red, white, and yellow, are to be used in the pattern. A strand of each of these colours is taken, and, in addition, a thinner strand of white. These five strands form the *aho* or weft. The *aho* is carried horizontally behind the warps, but, whatever colour is desired to show, that strand is twisted completely round the warp-thread and the remaining four strands of the weft. When, for instance, red is desired to show, the red strand is separated from the *aho* and twisted round the remaining constituents of the *aho* and each warp-thread for the required distance. Then, perhaps, the black is separated, whilst the red strand rejoins the *aho*, and so the process continues. Whatever-coloured strand is being twisted completely covers the warp-thread and the *aho*, and only the required colour shows in a smooth close surface. The great art is to have the *aho* strands of even thickness, so that the pattern may be regular, with straight lines and sharp points. The thinner white strand in the *aho*, made smaller than the other white strand as a distinguishing feature, is never twisted round the warp-threads, but is pulled now and again to tighten up the pattern. Bias wefts

are used in the *taniko*. The second weft in the *taniko* is the *aho paepae*, and takes some considerable time to weave, as all the calculations have to be made here as to the number of twists of each colour necessary to complete the pattern. Mistakes often occur, and the whole line is untwisted and commenced over again. This process of setting up the pattern is termed *whakatu taniko*. It may seem an easy matter on paper to space off the colours, but it is difficult in practice. If the spacing is too wide the triangles or lozenges in the pattern are not completed in the usual width of the border, and unless the twists of each colour are carefully counted irregularities occur in the pattern. When once the weaver has completed the *aho paepae* to her satisfaction, the work goes on apace. The next weft-line is woven as close as possible to the one above it and not at a little distance apart, as in the body of the *kahu*. All weaving went on under cover, and it was considered unlucky to leave a weft-line uncompleted at sunset, when all weaving ceased. In these degenerate days people have no fear of the anger of the gods, and weaving often goes merrily on by candle-light. *Taniko*-weaving is carefully guarded by the weaver, and, should a stranger enter the house to watch, the weaving would be at once covered over, lest the newcomer should convert the pattern to her own use. No one, unless desirous of insulting the weaver, would dream of uncovering a *kahu*\* in the process of making. In the *parawai* garments the lower border is wider than the sides, an ordinary sized garment being of the width of thirty-two wefts (about 3 in.), whilst the *taniko* of the sides is half this width, or fifteen wefts, making 1½ in. The ordinary pattern will be completed in a width of 3 in., but the *parawai* have often a lower border of 6 in. in width, the pattern being doubled. This lower border is known as the *parenga*.

Owing to the twists being in horizontal and vertical straight lines, the *taniko* patterns are in straight lines, forming zigzag lines, triangles, and lozenge-shaped figures. The curves and spirals so prominent in wood-carving and tattooing are totally absent. The particular description of each pattern would occupy too much space.

- (a.) *Aramoana*.—This is a zigzag pattern in red, white, or yellow upon a black ground.
- (b.) *Tukemata*.—The zigzag pattern in this is varied by having some of the lines serrated or toothed (*whakanaho*, as the Maoris would say). Small triangles, or *niho*, with the apices inwards, are placed along the upper and lower edges.
- (c.) *Aonui*.—The main figures are large triangles, with the bases alternately on the upper and lower border, and the apices just reaching the opposite side. These triangles are divided up into smaller triangles of different colours. The triangles are again separated

\* *Kahu* and *Kakahu*—garment, clothing; often applied only to the finer class of cloaks, &c. *Puweru* and *weru-weru*—applied to rough, coarse capes, &c.

from each other by single or double lines, plain or toothed. These are known as *paheke*.

(d.) *Whakarua kopito*.—The main figures are lozenge-shaped with *paheke* bordering them, and small triangles with their bases on opposite sides, their apices meeting in the mesial line.

The small serrations in the *paheke* dividing-lines are called *niho kata*, the "laughing teeth"—i.e., the incisors, &c., exposed in laughing, in contradistinction to the larger triangles which meet at their apices in the *whakarua kopito* pattern. These latter are termed *niho pu*, molar or back teeth. Another minor pattern is the *waewae pukeko*, supposed to resemble the feet of the *pukeko*.

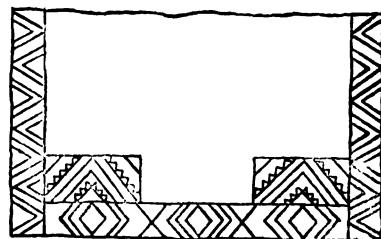
These are the only parts of the *taniko* which represent natural objects, the other patterns representing conventional geometrical patterns. The *taniko* of the sides are never the same as the lower border or *parenga*, but they have to match each other. For instance the lateral borders for a *tukemata* lower border would be wrong for a *whakarua kopito*, and only a woman ignorant of art would commit such an error. Pages could be written on the *taniko* alone, but—*kati*, enough.

#### VARIETIES OF "PARAWAI."

1. *Patea*.—This variety forms a typical garment of the *parawai* division. The body is woven in the usual way, but is devoid of ornamentation. The fibre used is not beaten to render it soft and woolly-looking. As a result, the *kahu* has a smooth, shining, silky appearance. The fibre used is the very best, as that obtained from the *katiraukawa* and *mataroa* varieties of flax. The *parawai* cloaks are commenced at the *ua* or upper border, unlike the *koroai* division, which are commenced at the *remu* or lower border. The *patea* is sometimes commenced at the *remu*, in which case the *taniko* would have to be woven first. The *tukemata* pattern is not used with the *patea*. The *taniko* of the *parenga* (lower border) is commenced on the completion of the body or *kaupapa* of the *kahu*. It is woven the exact width of the *kaupapa*. The *taniko* of the sides are then woven the full length of the garment, being attached at the lower end to the ends of the lower *taniko*. The *poka* or bias wefts are the same as in the *koroai*.

2. The *Tawakawaka* is exactly the same as the *patea*, except that the wefts are spaced with two close and two broad alternately, as in the *tawakawaka* variety of *koroai*.

3. The *Kapakapa* is woven like the *patea*, but a rectangular piece of *taniko* of a different pattern is attached to each lower corner. These rectangular pieces are called *kapakapa*, hence the name of the garment. They give a peculiar patched appearance to the *kahu*.

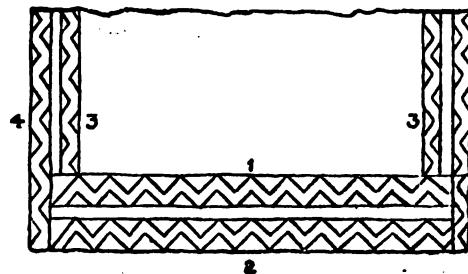


4. The *Huaki* is one of the finest-looking *kakahu* in Maoridom. It is woven like a *patea*, but has double *taniko* borders at the lower end and at the sides. The black *kahuki* to form the warp-threads of the *taniko* are attached to the body of the garment along their inner borders in the process of weaving. On the completion of the body of the garment there are three double rows of *kahuki*. The upper of the two lower *taniko* is first woven, and fixed by the lower edge on to the body of the garment. The lower *taniko* is then woven, and attention turned to the side *taniko*, usually the left side. Of these the upper is woven first and fixed to the *kaupapa*, then the lower is completed, and the same process repeated on the remaining side.

5. The *Paepaeroa* is another fine garment, but is woven in a different manner from the preceding. The wefts are carried along for a distance—that is, the desired length of the garment. *Kahuki* are only affixed to the left side. About fourteen wefts are woven before the first *poka*, which is small, consisting of two or four wefts. About fourteen more full-length wefts are woven, and then a mesial *poka* is woven of several wefts, of an even number, of course. Equidistant below is a third smaller *poka* of two to four wefts, the garment ending with fourteen full-length wefts. The *kahuki* attached to the left side are woven into a broad *taniko* border, whilst *kahuki* are now attached to the upper and lower borders, and narrower *taniko* woven. The *kahu* is now turned, so that the right side comes uppermost and forms the *ua* or neck, whilst the broad *taniko* of the left side becomes the lower border, or *parenga*. The narrow *taniko* of what were the upper and lower edges now become the *kaokao* or sides. The garment is worn in this way, with the result that the weft-threads, which in other garments run horizontally, in the *paepaeroa* run vertically, when worn, though woven horizontally in the usual way. Of the three *poka* (in contrast to the two of other garments), the mesial one corresponds to the left side of the wearer's body, whilst the two smaller ones curve round the front and back of the right side, where it is tied.

#### FEATHER GARMENTS (KAHU HURUHURU).

Feather garments are more common in these days than the *parawai*. The body of the garment is woven in the usual way, commencing at the *remu*. The outer surface of the garment is towards the weaver, and feathers are fastened in along the weft-threads either singly, or in twos or threes if the feathers are small. Bias wefts are used as in the other varieties. The borders may be ornamented, the correct pattern being the *pahake* patterns used with *koroai*, but the *taniko* is now used for this purpose.



1. *Kahu Kiwi*.—The feathers of the *kiwi* (*Apteryx*) are used, and, owing to the scarcity of the bird in some districts, and the fact that it is protected, these *kahu* are very valuable. The larger feathers of the back are preferred, and these are usually stuck together in threes by rubbing some sticky material round the quill-ends to allow of the feathers being attached as if they were one. In ancient times the gum of the flax (*Phormium tenax*) was used, but now soap is the material employed. The feathers are first attached along the fourth weft, and then about every third weft. The triple feathers are laid upon the warp-thread, and both feather-quill and warp surrounded tightly by the weft. The projecting butt end of the feather is then doubled over on the next warp-thread, and the weft again secures them. Each little tuft of three feathers is thus caught in twice by the weft and kept securely in position. The feathers are attached in this way along the length of the weft, and each row overlaps the others, thus presenting a continuous surface of feathers.

*Kiwi*-feathers may be attached in two ways,—

- (a.) The inner or under surface of the feathers is laid upon the body of the garment in the way the feathers lie upon the bird. This gives a smooth appearance, the feathers lying flat. The Maoris term this *tamoe*.
- (b.) The reverse of the above is done, the upper surface or back of the feather lying upon the garment. This causes the feathers to stick up (*whakaaraara*) and gives a better appearance to the completed garment.

Other feathers are sometimes used with the *kiwi*-feathers.

2. *Kahu Kereru*.—The feathers of the *kereru* or wood-pigeon (*Hemiphaga novæ-zelandiæ*) are very commonly used. Being larger feathers, they are used singly. The Urewera Natives make elaborate designs in squares and lozenges with the differently coloured feathers, and are, no doubt, the most skilful weavers of feather garments, whilst the Whanganui are most skilled in *taniko*-weaving.

3. *Kakahu kura*.—This very beautiful cloak is very rare. The feathers used are the red feathers from beneath the wings of the *kaka*, which give the *kahu* the name of *kura*, red. It takes a considerable time to collect sufficient feathers, as there are only a few in each bird. In the days of old, when whole flocks of *kaka* were captured by using the *mokai* or decoy, it did not take so long, but nowadays the collecting would necessitate travelling far afield. The feathers are woven singly. Red was the desired colour in ancient times, hence the *kakahu kura* (the red cloak) would be worn only by chiefs. The other feather cloaks were usually for the maidens of rank.

The feathers of other birds, such as the *tui*, *weka*, *kakariki*, and *kakapo*, were also used, but usually mixed with pigeon-feathers.

## DOGSKIN CLOAKS (KAHU-KURI) AND HIEKE.

These were amongst the most valuable and treasured possessions of the Maori. The native dog is now extinct, and the existing cloaks are owned by collectors and museums. The body of the cloak is woven in the same way as the *taniko*, but the material is white. This makes a strong material, which, wrapped round the left arm, was capable of staying a spear-thrust. It was essentially the cloak of a warrior. The ornamentation of tufts of hair, or of strips of dogskin with the hair attached, was sewn to the mat by pieces of fibre passed round the strip with a bone needle. Near the neck of the garment the strips of dogskin were prolonged, and allowed to hang over in a fringe termed the *kuru patu*.

1. *Kahu-waero*.—The tail of the dog is the *waero*, and the long hairs were taken from it and bound in tufts with fibre. These are seen in the ornamentation of the *taiaha*, and the similarly prepared tufts were sewn to the cloak so as to cover the outer surface. It forms the most valuable variety of this division.
2. *Ihupuni*.—Narrow strips of black dogskin are attached vertically.
3. *Topuni*.—White strips at the sides, with the body black.
4. *Awarua*.—Alternate strips of black and white.
5. *Huru*.—Here whole skins are sewn together, and there is no body of prepared fibre.

The description of the *topuni*, *ihupuni*, and *awarua* varies with different tribes, but seems to be merely an arrangement of colour. In the Nga Rauru version of the Aotea migration, Turi is reported to have presented his father-in-law Toto with an *awarua* in return for the canoe. Certainly there could have been no fibre-body to that cloak, but as a number of names are given of the dogs whose skins composed the cloak, it most probably was a *huru* in the Whanganui nomenclature. In all these varieties except the *huru*, *taniko* borders could be used. Some of these garments had names. When Maka, of the Arawa migration, was in the Tongariro highlands, he drew his *huru* around him and proceeded to make himself comfortable for the night. When the other members of the party remonstrated, and pointed to the falling snow, Maka replied, "E, ka puta ano i te Ahu-a-Kuranui ?" ("Ah, but can it pierce the Ahu-a-Kuranui ?"). Te Ahu-a-Kuranui was the name of Maka's *huru*. When day dawned, Maka slept his last sleep in his famous dogs skin cloak which had failed to uphold its owner's fond boast. The cold and snows of Tongariro had pierced its sheltering cover, and Maka the sea-rover had gone to join his fathers. The hollow where Maka lay is still pointed out, and his words have become a proverb, though now applied to the unromantic but useful oilskin, or macintosh.

## HIEKE DIVISION.

In this division there is no border ornamentation of the *paheke* or *taniko* kind, whilst the tags on the outer surface are of undressed flax.

1. The *Hieke* is made exactly like a *koroai* with the exception of the tags or *hukahuka*, which are, however, fixed along the weft-threads in the same manner. To make these tags the flax described as *wharariki* offers the best material. The flax-blades are split into the requisite widths of half to one inch and lightly scraped with a shell to soften them. They are soaked in the mordant preparation from the *hinau*-bark termed the *wai tumu* for a night or so. After drying thoroughly they are placed in the black-staining mud, the *repo parapara*, and left for some time. They are then washed and dried, and present a deep-black colour. These are now ready for placing along the wefts, the part coming under the weft-thread being first rubbed and softened between the fingers. These tags are about 6 in. long, and the rows overlap, presenting the appearance of a shingle roof. At the neck long tags with the ends well scraped to expose the fibre are used. The scraped ends are included in the plait of the neck, whilst the other ends hang down in a long row in a similar manner to the *kurupatu* of the *koroai*.

2. *Tihetihē*.—This cloak is exactly the same as the *hieke* but for the addition of some *hukahuka* of bright-yellow colour attached here and there. These golden-tinted tags are obtained ready prepared from Taupo by those who are fortunate enough to have an *ara whanaunga*—a claim of relationship—with the Ngati-Tu-wharetoa owners of the soil where this particular variety grows. When in Taupo I made inquiries, and found that these golden tags were prepared from a flax called *motu-o-ruhi*, which grows only at Motukino, on the southern shores of Lake Taupo. The green leaves of the *motu-o-ruhi*, having been split into requisite widths and lightly scraped, are warmed by the fire, when they assume a beautiful golden colour. They are now called *tihetihē*, and, on being used as tags, give their name to the finished garment. It is a *kahu-whakawaiwai*, a garment of beauty, much desired by the chiefs to set off their figures in the assemblies, and also useful as coverings at night and as rain-cloaks.

3. *Pota*.—A rougher cloak, in which the long tags have one end scraped into fibre, which is woven in with the warp-threads, whilst the unscraped ends hang free as *hukahuka*. The body of the garment is thus mixed with the white prepared fibre and the black fibre of the tag-ends. A rougher, heavier, and warmer cloak is formed, useful in wet weather and as a covering at night.

4. *Pureke*.—This cloak goes a step further, in that the scraped tag-ends are used entirely for the warp-threads, and no white dressed fibre is used. The size is smaller than the *pota*, and less care is taken in the weaving. The weft-threads may consist of only two instead of four. This weft is called a *patahi*. The *pureke* is a rain and cold-weather cloak.

5. *Pake*.—This is a still rougher cloak. Flax is left in water until the epidermal matter or *para* easily falls off. This material is used as in weaving the *pureke*. Sometimes the back part stripped off the flax in scraping fibre is used after soaking in water. Still water is used, as cold running water delays the process.

This cloak is used by the coastal tribes in fishing. Drawn round the knees whilst in the fishing canoes, it offers protection from the scales and spines of fish, which are drawn up on to the knees and there despatched.

#### THE PARA CLASS OF CLOAK.

These are shorter cloaks, with only one *poka*, made of rougher material and used as rain-capes over the shoulders. The weft is a *patahi*.

1. *Para Harakeke*.—The material used is the *tuara* or back of the scraped flax, such as is used in the tags of the *pake*. One end is rubbed between the fingers to render it soft for using as the warp-material.

2. *Para Kiekie*.—This *para* is made from the leaves of the *kiekie* (*Freycinetia banksii*). The edges and midribs of the green leaves are removed, and the prepared strips placed in a *hangi* or steam oven to soften. They are then soaked in a pool of still water until the epidermal matter can be shaken off, and the fibre left. Any adhering matter is scraped off with a shell, and the fibre, after being dried, is twisted into hanks. The material is then woven as in the case of the *para harakeke*.

3. *Kahu Toi*.—This, though prepared like a *para*, receives the dignity of the name of *kahu*. It is made from the leaves of the *toi* (*Cordyline indivisa*) which grows in mountainous regions. The leaves are prepared in the same manner as those of the *kiekie*, but after the cape is woven, it is soaked in the mordant preparation and, after drying, trodden into the black-staining mud. The fibre is much stronger than flax, and does not easily rot. It takes a dark shiny stain which does not fade. The weft-threads usually number four (*aho rua*), though the *patahi* may be used. The *toi* makes the best of all rain-cloaks, as the rain readily runs off the *toi* fibre, whilst the cloak does not become heavy and sodden as in the case of the other rain-cloaks. The fibre is very strong and elastic, and was much valued. It ranks with the better class of garments in being worn by chiefs and warriors, thus ranking as a *kahu tutuhu*. From its resistance to spear-thrusts it was much used on the field of battle and had considerable *mana*. If placed over a dead body by a chief, the body would not be dissected for culinary purposes, whilst placed over a living captive it preserved the captive's life. It also shared with *parawai* garments and women of rank the distinction of being used to cement peace between conflicting tribes. When Hori Patene of Whanganui fought against the British on the field of Katikara in Taranaki, he sent away his son by the only way of escape so that his house might not fall into decay and his family line become extinct. Then the grim old warrior bade farewell to the world of light by removing his *toi* cloak, spreading it before his rifle-pit, and emptying his powder-flask upon it, that, in the British charge which was impending, he could reload his musket as speedily as possible. This act signified no flight and no surrender; and so, with the joy of battle surging up in his heart, he died the warrior's death, and his spirit passed to the

*Reinga*, happy in being accompanied by the victims of his unflinching valour. How else should a *toa taua*, a tried warrior, die?

4. *Pukupuku*.—Another cloak woven like the *taniko*, but with many knots to render it strong. It was used in battle as a *whakapuru tao*, a defence against spears.

#### METHOD OF WEARING CLOAKS.

1. The common method on state occasions was to wear the garment over both shoulders. Two cords are attached to the upper border towards the sides. These are tied over the right shoulder, the opening between the sides of the cloak being to the right, and the right arm being free.

2. Another method was to bring the cloak under the left armpit, and tie over the right shoulder as above. In this case both arms are free, but only one shoulder was exposed, so that this mode of wearing is termed *tumu-tahi*—one shoulder. This was the usual mode adopted by women in wearing a *parakiri*, to enable them to attend to their household duties. The garment was also tied round the waist.

3. Another mode was to have the opening to the front, the upper part being open and the lower belted around the waist. This enabled both hands to be used, and was termed *tumu-rua*—two shoulders.

#### WAIST-GARMENTS, OR RAPAKI.

*Rapaki* is a general term for any garment girded round the loins. *Korowai* and *parawai*, as they became worn and frayed, were often converted into a *rapaki* for everyday use. Many of the older school, though they abandoned the materials used by their fathers, wore shawls, blankets, or calico around the waist as a *rapaki*. Bushmen often do likewise for the freedom of movement obtained, but the word used is *rapaki*, seldom "kilt." Hotu, a chief of the Ngati Maniapoto, has worn the *rapaki* all his life, and he confidently attributes his seventy years or so of healthy life to his never having succumbed to the pernicious habit of wearing trousers. The Urewera made special garments known as *rapaki*, or *papaki*.\*

1. *Piupiu*.—Anything around the waist with hanging strips is now termed a *piupiu*, even if it is made of strips of the bark of the *houhi*. With the Whanganui, however, the original *piupiu* was confined to those made entirely of flax-fibre. The *muka*, or fibre, is twisted into thick two-ply threads, which have one end knotted and the other end woven into a band of varying width, finishing off on the upper edge with a three-fold plait. The upper band might be simply plaited, or it might be woven in the same manner as the garments, the upper ends of the twisted threads being used as warp-threads, whilst weft-threads were woven across. The weft-threads could be either single (*patahi*), or double (*aho rua*). When a single row of hanging threads had the band woven a few inches in width, another row of hanging

\* Best : Trans. N.Z. Inst., xxxi.

threads was often added in front. It corresponded in length with the first row, and made the *piupiu* thicker. The upper band could be ornamented with *paheke* patterns or have feathers woven on as in the manner of the feather garments.

Ordinary simple black *piupiu* were placed in the *waitumu*, and then trodden down in the *repo parapara*. The more ornamental ones could not be treated thus, but the fibre was dyed ere weaving.

To the ends of the waistband were attached cords for tying around the waist.

A variety of *piupiu* had the hanging threads only in front, and was used as a *maro*.

2. *Ngetangeta*.—This variety of waist-garment is more common than the *piupiu*, but has come to be included in the term *piupiu*. The green leaves of the flax are divided into strips of from  $\frac{1}{2}$  in. to  $\frac{3}{4}$  in. in width, and cut into equal lengths. Each strip was scraped with a shell (*hakuku*) at intervals, to remove the epidermis and expose the fibre. A long strip at one end is also scraped to allow of weaving into the waistband. The unscraped intervals may be bent so as to leave transverse lines  $\frac{1}{2}$  in. or so apart. The strips are now boiled, or put into hot water, which has the effect of softening and curling them: the edges of the unscraped parts curl in towards each other, causing the strips to become narrower, rounded, and somewhat tubular. The strips, after hanging up to dry for two or three days, are placed in the mordant, or *wai-tumu*, of *hinau*-bark, and again dried. The strips are now rubbed three or four times with the *repo parapara*, or black mud. The scraped intervals, where the fibre is exposed, stains a deep black, as also do the transverse lines previously bent upon the unscraped parts into transverse black rings. The strips are then washed quickly in running water to prevent the white unscraped intervals from being darkened. They must also be dried quickly to prevent darkening, and for this reason the dyeing is only done on a fine sunny day. The prepared strips are woven together, the long scraped ends forming the warps, whilst single or double weft-threads are woven across from left to right in the manner of *piupiu*. Good *ngetangeta* are made with two rows of prepared flax strips, the inner having long scraped upper ends which were woven for several inches ere the outer row was added. This outer row had shorter scraped upper ends, but, below, the scraped and unscraped intervals of the two rows had to exactly coincide. The completed *ngetangeta* thus formed a waist-garment with alternate black and white bands. By careful arrangement of the strips, other patterns, such as steps or black and white squares, could be obtained, but these are modern innovations. Nowadays the *ngetangeta* for women have longer strips, whilst the inner row is not usually woven for any length. For men, the garment should end just above the knee, whilst the inner row should be woven for some length.

To form the waistband, the scraped ends of both rows may be simply plaited, or a *paheke* pattern formed by working white cords across the vertical black upper

ends of the strips, as in basketry work. The ends may be woven into a band of a few inches in width and ornamented with feathers, or a *taniko* pattern used. The Whanganui hold that these latter two are recent developments, the pure finish of olden times being the simple plaited cord (*whiri*) or the basketry-worked *paheke* pattern.

3. The *Puihihi* is really a variety of *ngetangata*. The strips are thinner, whilst the scraped and unscraped intervals are shorter, thus making a garment with narrow black and white bands. The wearing is the same as the *ngetangata*, but, owing to the thinness of the strips, several rows may be used.

4. The *Ngaeheehe* also follows the *ngetangata*, but differs in that the strips of flax are split whilst being prepared. This gives higher and hollower strips of a reed-like appearance. In the various movements of the *haka* or the *poi* the hanging strips rattle more, thus giving the garment its name of *ngaeheehe*.



## SOME NOTES ON THE SMALL OUTRIGGER CANOES OF NIUE FEKAI.\*

[By TE RANGIHIROA, M.B., Ch.B.]

THE Niue outrigger canoe, or *vaka*, to hold from one to four men, is very small when compared with the Maori *waka*.

The hull is usually built from the *moota*, a dark-red wood of straight grain, resembling the *totara*. A tree with a bend is usually selected, because the heart of the *moota* splits very easily. By using the bend of the tree for the body of the canoe, with the cavity upwards, it will be easily seen by reference to the diagram that not only less work has to be done in shaping up the bow and stern, but that the heart of the wood does not come into the construction of the bow or stern, as would be the case with a straight piece of timber. The hull is thus stronger and less likely to split.



These canoes are of course, built for fishing, and thus in canoe-building many customs are observed which have the object of making the canoe successful in catching fish. For instance, in selecting a tree, besides the bend, the tree must be bearing fruit, the more the better, as this would augur plenty of fish. A tree without fruit would never be selected, as no fish would be caught by a canoe built from such a tree. The tree having been felled, the shaping of the hull outside must be completed ere any steps are taken to hollow out the inside. The shape of the canoe could always be altered and errors rectified whilst the hull was solid, but, once it was hollowed out, this could not be done. When food—usually fruit, followed later on by cooked food—was brought to the workers, it was always placed upon the ground to the right of the bow (*mata-ono-vaka*). When the food was put down, all building operations had to cease immediately, and the food had to be eaten as soon as possible. This was another forecast of the future, for, were the food to remain any length of time ere it was eaten, the fish would wait a correspondingly long time ere biting at the bait when the canoe went a-fishing. Therefore the food was eaten at once, so that the fish would bite quickly. It was by strictly following such rules that a canoe becomes lucky and successful, for, say the Niue people, there are canoes that never catch fish, and there are canoes that are very lucky.

In shaping the *vaka* great care had to be taken with the anterior part, which was the only part to have a keel (*hui*). The *hui* was very slightly raised, the sides

\* From information supplied by Falani Tataaihi, One, and Ikifana, of Niue.

really meeting in a sharply raised line which extended from the bow (*mata ono*) to the commencement of the horizontal plane beneath the body of the canoe, where it was terminated by a transverse cut, the *futoki*. On either side of the *futoki* in well-built canoes was a rounded bulging named the *fuafua-akau*. The body and posterior part of the canoe are destitute of keel, and quite rounded. At the junction of the horizontal plane with the rising line of the stern part the canoe had to be nicely rounded, with a gradual rise. This was the *fualoku*, occupying a similar position aft to that occupied by the *fuafua-akau* in the fore part. In testing the lines of a canoe it was placed horizontally on skids. A person looking along the horizontal plane of the under-part of the canoe from about the *fualoku* would see there the raised *hui* ends at the *futoki*, and should also see the bulging *fuafua-akau*. These would constitute the sign of a fast canoe, and, conversely, if they are not prominent enough, or are obscured by the *fualoku* not being shaped up sufficiently, the canoe would be slow. A canoe with a *hui* is known as a *ta gefela*. It is a bad-sailing vessel against a head wind, bumping considerably, and making a wet passage. Some canoes are not made with a *hui*, the bow being rounded like the stern. This type makes better way against a head wind, and is known as *ta ulu kafika*.

Unlike the Maoris, who invariably made the bow of the canoe from the end of the log which was uppermost when growing, the Niues preferred the lower end of the log for the bow, saying it was older, stronger, and better suited for resisting the rough usage to which the bow was subjected.

The outer hull having been shaped, the inner part, or *riu vaka* is hollowed out. The topsides or *talagataha* are then shaped and fitted on to the hull. In the model canoes made by the Niue people, the *talagataha* is usually in one piece, but this is never the case with the proper canoes. The proper *talagataha* consists of a bow-piece, *pukeulu*, which covers over the fore part of the *riu* or hold, and a similar stern-piece, *pukemuimui*. Between the *pukeulu* and *pukemuimui*, bounding the open part of the *riu*, is an upright board on either side, laced to the hull of the canoe below, and to the fore and aft pieces, which it connects. This board is known as the *oa*, and corresponds to the Maori *rauawa*, or *awa* as it is often called. The lower edge of the *oa* is grooved, and the inner lip, which is elongated, and projects downwards, is drilled for lashing to the hull, the holes thus not showing on the outer surface of the *oa*. The groove of the *oa* is known as the *kaupu-oa*. It is not correct for the *pukeulu* and *pukemuimui* to have a flat upper surface, though this is often done with model canoes made for sale purposes. From the mid-line the surface slopes down on either hand towards the sides, where these planes meet the side planes sloping upwards and inwards from the junction with the hull. Thus there is a medial ridge with two lateral ridges, the lateral ridge separating an upper surface from a lateral surface. These surfaces are carved with lines and angles known as *tikitiki*. Commencing with the *pukeulu*, or bow-piece, we have at the

base or near the opening of the canoe the *la matakula*. This is of the form shown in Fig. 1, and is bounded anteriorly by a zigzag line, the middle prong of which is continued on into the medial ridge of the *pukeulu*. The *la matakula* surrounds a space—the *kavia*—on which hooks (*matau*) and bait (*page*), especially octopus (*page feka*), are kept. The remaining carvings of the *pukeulu* consist of straight lines running obliquely backwards and downwards on either side from the medial ridge. These are supposed to allow the water to run off the bow-piece, whereas any lines curved in other directions would obstruct this clear passage.

For trade purposes carvings are added to please the artistic eye of the *papalagi*, or white man. In the case of the *pukemuimui* we have a greater variety of patterns. There is a portion corresponding in position to the *la matakula* which is perfectly flat, of similar shape, but minus the zigzag anterior border, known as the *tu atau*. The carving-patterns I was enabled to obtain were very crude, consisting merely of straight lines crossing each other, and making lozenge-shaped figures.

- (1.) *Laku* or *lupelupe*—oblique lines crossing each other.
- (2.) *Fakahoehoe*—consisting of three straight lines meeting other three lines at an acute angle, either in the pattern (a) or (b).
- (3.) *Takiti* consists of a double *fakahoehoe* pattern (a), with the apices meeting.
- (4.) *Gogo-gogo* consists of a series of notches cut in the raised medial ridge of the *pukemuimui*.

Coming back again to the *pukemuimui*, we have the *tuatua* above mentioned crossed with the *takiti* pattern, and the medial ridge notched with the *gogo-gogo*. Then, on the two upper and two lateral surfaces are carved *takiti* and *fakahoehoe* patterns, with here and there a rectangular patch of *lupelupe*. The *oa* may be carved with *takiti*, *fakahoehoe*, or *laku*, or a mixture of all. The canoes brought to the exhibition had these patterns upon the *pukeulu*, which, again, was done to please the eye for sale purposes. The *pukeulu*, *pukemuimui*, and *oa* are lashed to the hull with sinnet. These ties are known as *falo vaka*. The joints or seams are covered over with gum (*piri*) of the *ai*. (See diagram on next page.)

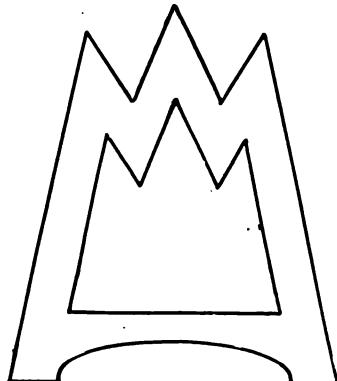
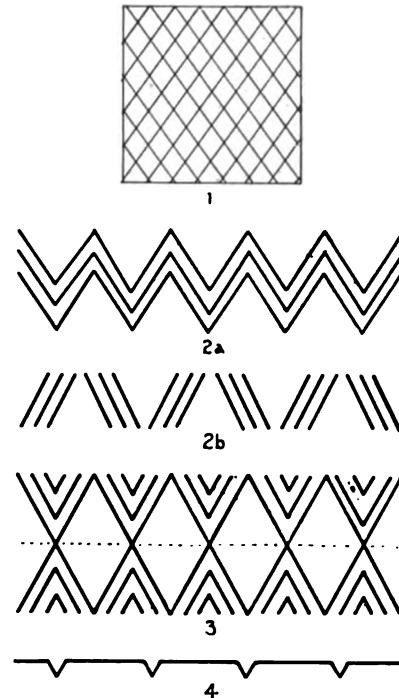


FIG. 1.



The outrigger is always on the left side, and the fisherman fishes over the right side, of the canoe. This outrigger, or *hama*, lies parallel with the canoe, to which it is connected by two or more horizontal pieces, the *kiato*. The *kiato* are lashed to both *oa* on the one side, and on the other are connected to the *hama* by short thin pieces, the *tutuki*. The *tutuki*—usually three or four for each *kiato*—are let into the holes in the *hama* below, and lashed by the *falo tutuki* ties to the *kiato* above. Another rod, the *fohinohi*, parallel to the canoe, may be lashed to the *kiato*. The fore *kiato* is the *kiato mua*, and the aft one the *kiato mui*. Within the canoe itself U-shaped pieces of wood may be lashed to the sides to give strength and support to the side-boards. These are the *manu*, the anterior one being the *manu ulu*, the posterior the *manu muimui*, and the central one the *manu lato*. The seat is called the *nofoa*, and the balers *tata*, as with us.

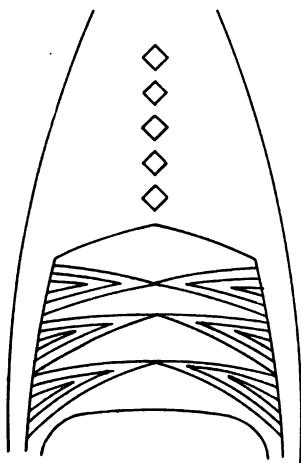
In attaching the rear *kiato* it must be so placed that it will not interfere with the sweep of the paddle (*fohe*) of the man sitting in the stern. A larger canoe with three *kiatos* may have four men, one having paddling-space in front of the anterior *kiato*, another behind the posterior *kiato*, and the other two in the two spaces between the *kiatos*. This canoe is a *vaka-heke-fa*. A canoe with three *kiatos* may seat three, and is then a *vaka-heke-tolu*, though they are usually built for two persons.

On the completion of a new canoe it is usually ornamented on its first voyage with a white cowrie-shell (*pule tea*) hung on the bow and on the stern, the former being termed a *mata ono vaka taupule*, and the latter the *mata mui mui vaka taupule*.

The Niue people seldom use any anchor in the fishing expeditions, but are very dexterous in managing the canoe with the paddle held in the left hand whilst they fish with the right. The paddle is also slapped against the side of the canoe—as they say, to attract fish by the sound. When a fish bites, the paddle is quickly drawn in, and both hands used to manage the line.

Though the *moota* makes the best hulls, the *kafika* is often used, as in the canoes brought to the Exhibition. The *hama* is always made of a light wood, as the *fou*. In the Exhibition canoes the topsides are made of the *le*, and the *tutuki* of *moca*.

For those who do not know the Niue words I may mention that “*g*” is pronounced “*ng*,” as in *gogo*, *papalagi*, which are pronounced “*ngongo*,” “*papalangi*,” whilst “*t*” followed by “*i*” has an “*s*” sound—as *tikitiki* = *tsikitsiki*.



## SOME TATTOO PATTERNS FROM MANGAIA.\*

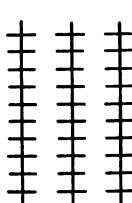
[By TE RANGIHIROA, M.B., Ch.B.]

IN Mangaia the process of tattooing is called *ta tipatipa*, the word *ta* being the same verb as in the Maori *ta moko*.

The instruments used correspond to those used by the New-Zealanders. The *ivi-ta-tipatipa*, a piece of bird's or human bone with three or more teeth, tied at right angles into a wooden handle, corresponding exactly to the Maori *uhī*, whilst the mallet was an ordinary rod of cocoanut wood, which was called an *anu*.

The *ngarahu* or charcoal used is the soot obtained from burning the oil of the *tuitui* or candlenut-tree. This oil is used to the present day in their lamps. To get an abundance of soot for tattooing purposes, one of their stone lamps was put in a hole in the ground, and a hollowed stone placed above the light. The soot was scraped off the stone and mixed with water to form an ink. Into this ink the *ivi-ta-tipatipa* was dipped, and the various patterns beaten into the skin with the *anu*, or hammer.

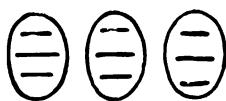
The various patterns described by Taniera Tangitoru, of Mangaia, are as follows:—



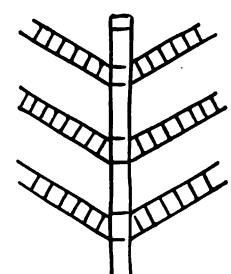
(a.) *Pa'oro* (really pronounced *pahoro*) consists of vertical lines with short lines drawn across them at right angles. This pattern was drawn upon the lower leg, extending from the ankle to below the knee.



(b.) *Wawa'anga* (pronounced *wawahanga*) consists of long oval loops running together, with the convexity pointing downwards, and two short lines inclined at angles from the junction of the loops. The site was just above the knee.



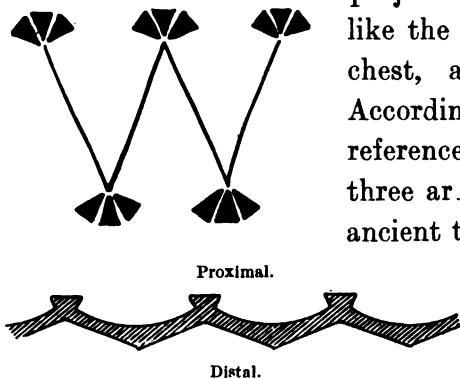
(c.) *Pote'a* (pronounced *poteha*) consists of ovals with usually three short transverse lines contained within the ovals. These were tattooed upon the thigh above the *wawa'anga*, and the long axes of the ovals were vertical.



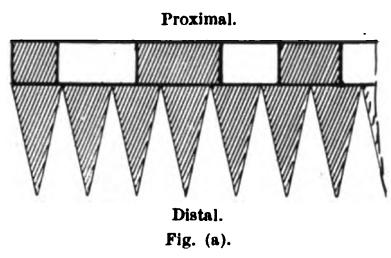
(d.) *Tuata'iti* (pronounced *tuatahiti*).—This pattern is tattooed upon the back. There are two vertical lines drawn down the spine, with short cross-lines connecting them. From these central vertical lines oblique lines run upwards and outwards in pairs to about the mid-axillary line. These pairs have also short connecting-lines between them.

\* From information supplied by Tangitoru, of Mangaia.

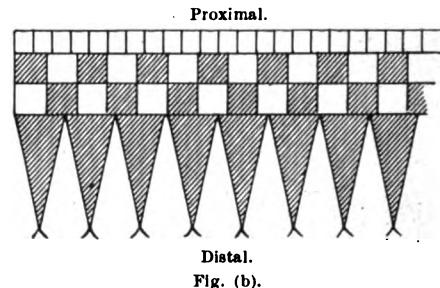
(e.) *Puwakewake* consists of zigzag lines meeting at acute angles, with three rays projecting out from the angles. These rays are shaped like the arms of a Maltese Cross. The site is upon the chest, and also upon the shoulder and upper arm. According to Tangitoru, the number of zig-zag lines have reference to the genealogy of the individual, whilst the three arms projecting from the angles represent the three ancient tribes of Mangaia.



(g.) *Ruru* or *Kau*.—These patterns encircle the wrist or lower part of the forearm below the *manutai*.

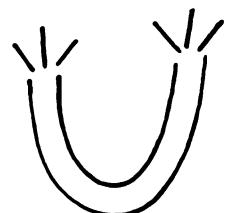


(f.) *Manutai* runs across and encircles the forearm, with the sharp points of the angles towards the hand.



plain. There may be one or two rows of these, forming a base from which triangular rays project down towards the hand. From the apices two short lines may project. Two patterns—Figs. (a) and (b) are shown.

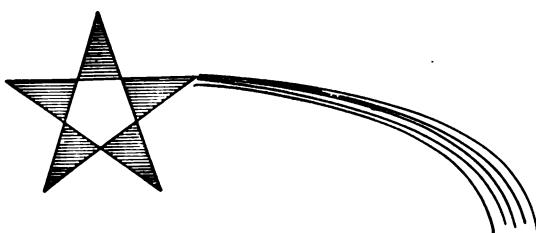
(h.) *Motupoki* is a curved double line following the curve of the hand between the forefinger and thumb, the two ends on the proximal phalanx of the forefinger and thumb being terminated by three short projecting lines.



(i.) *Mokora*.—This completes the tattooing of the hand, being usually upon the dorsum, and extending down upon the backs of the fingers. It consists of small crosses.



(j.) *Maurua*.—This pattern resembles a comet having a tail, but is really a representation of the star Maurua, which was one of the signs of the heavens by which early Polynesian navigators directed their course across the ocean. It is mentioned in the song



Ko Maurua te etu  
E ka ite rangi.

(Maurua is the star  
Which shines in the  
heavens.)

There is a Ngati-Maurua Tribe in Mangaia.

(k.) *Purauti*.—This is a face-pattern, consisting of a long triangle extending across the cheek, with a curved base towards the ear and the apex towards the nose. From the apex stretch two curved lines inclining to a spiral form, with another short line near the base of the upper spiral. This pattern was used by the males.



(l.) *Ngutu*.—This is a female's pattern, of two lines following the curve of the upper lip.



Tattooing is carried on more extensively in Mangaia than any other part of the Cook Group. Though the face-patterns have been discarded, the arms, legs, chest, and back are still tattooed. Most of the Mangaians who came to the International Exhibition at Christchurch had *ruru* and *mokora* patterns upon the arms, and *paoro* upon the legs. Tangitoru had the *puwakewake* pattern upon the shoulder and upper arm, whilst another had the *manutahi* upon the forearm, the *maurua* upon the abdomen, and a partly finished *tuataiti* upon the back.



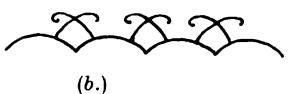
SIDE AND BACK VIEW OF A PATAKA.

## AITUTAKI MOKO: SOME TATTOO PATTERNS FROM AITUTAKI.\*

[By TE RANGIHIROA, M.B., Ch.B.]

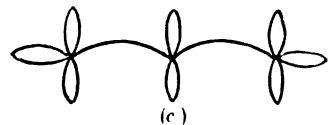
THE *moko* patterns I obtained from Kake Maunga, the oldest of the Cook-Islanders present at the Exhibition, are not so many and varied as those of Mangaia, but they have a wider distribution upon the human body, and thus one Aitutaki pattern may take the place of two or more of the Mangaia patterns.

(a.) *Papavaro* consists of oblique lines meeting at obtuse angles. It was traced over the anterior surface of the body from the thigh to the abdomen. It was also traced upon the back, but was essentially an anterior pattern, as shown by the song referred to under "*Manutai*."



(b.) *Ruru*.—This pattern has the same site as the Mangaian *Ruru*—i.e., upon the wrist and forearm—but the pattern is different.

(c.) *Parepare*.—This is also drawn upon the wrist, but more often upon the shoulder over the deltoid region, and also upon the chest.



(d.) *Tatatao*.—This is a face-pattern consisting of three curved lines, which are shown in three positions—(1) on the forehead, over each eye-brow, resembling the Maori *tiwhana*; (2) over each cheek, corresponding almost to the Maori *kawe*; and (3) on the chin, with the concavity upwards. The *tatatao* was, of course confined to the males, and, as my informant explained, lent the visage an awful aspect in the days of war.

(d.) (e.) *Manutai*.—This pattern corresponds exactly to the *tuataiti* pattern of Mangaia, and is used upon the back in the same way. The *manutai* in Mangaia is a wrist-pattern. When a man had the *manutai* upon his back and the *papavaro* upon the anterior surface of the body, he felt he was fit to be looked upon with admiration. Hence, at gatherings of the people he could stand forth in their midst and display his tattoo patterns, singing as he did so,—

Ié uria, uria, uria

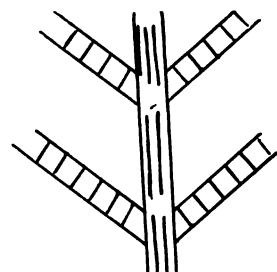
(Oh ! turn, turn, turn,

Uria te manutai ki taitikura

Turn the *manutai* to one side,

Uria te papavaro ki taitikura.

Turn the *papavaro* to the other side.)



With appropriate gestures, and the bearing of one who felt that he was the highest culmination of art, he showed the *manutai* to one side and the *papavaro* to the other, and then, turning, showed the reverse. As the *manutai* is only printed upon the back, and *papavaro* in the song stands in antithesis to it, the *papavaro* is essentially an anterior pattern, though sometimes done upon the back.

\* From information supplied by Kake Maunga, of Aitutaki.

## NOTES ON A MODEL CANOE FROM MANGAIA, COOK GROUP.

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[By A. HAMILTON.]

At the New Zealand International Exhibition held at Christchurch in the latter part of 1906 and the beginning of 1907, a number of Natives came over from the Cook Islands, bringing with them materials for the construction of houses and various articles. Amongst the exhibits made in the Islands and brought over for exhibition was a model of an ancient sea-going canoe formerly used by the inhabitants of Mangaia, one of the southernmost of the group of islands belonging to the Dominion of New Zealand, called the Hervey or Cook Islands.

I was much interested in the model, as it contained some special points of interest that were quite new to me. I was able to acquire the model for the Dominion Museum; and the following account of its making and the detailed description of the parts was obtained from the chief Tangitoru, by the kind assistance of Mr. H. Bishop, S.M., who was in charge of the Natives from the Cook Islands. Mr. J. T. Large, the Resident Commissioner of Mangaia, has kindly revised my notes, and gone over them with the makers of the model, and the statements made may therefore be relied upon as accurate. The name of the canoe is "A'ua'u," this being the ancient name of Mangaia. The name A'ua'u is the same as the Maori name for the Great Mercury Island in New Zealand, Ahuahu; but, there being no aspirate in the dialect of the Cook Islands, it is generally written the way given above. The "w" of the Maori is also "v" in the Islands.

The men who owned the canoe were Tangitoru, Ata, Atatama, and Autemate, all belonging to the Island of Mangaia. The *miro* wood for the hull was furnished by Autemate, and Terepo assisted him in roughly adzing it into shape. Tangitoru and Terepo then finished it off, made and carved all the separate parts, and painted the ornamental patterns being taken by Tangitoru from ancestral marks tattooed on his own person.

The model is 14½ ft. in extreme length, width 12 in., depth 18 in. It represents a canoe about 5 *maro*, or 30 ft., in length. The topsides are made of *puka*, a wood that lasts a long time if kept dry. The topsides are called *oaa*. The seats or cross-pieces are called *no'oanga*. When a piece of wood cannot be procured of sufficient length for a canoe, two or more pieces are joined: this join is called *poinga*, the foremost part of the hull being *aumi* (Maori *haumi*), the aftermost part *mirivaka*. If, however, it is found necessary to make the hull of more than two pieces, the part between any two joinings is called *e moe*. A small canoe dug out of one piece of wood only is called *e vaka tavatai*, but if composed of two or more pieces is called *e vaka poinga*.

The outrigger (*ama*) is connected with the hull by two cross-pieces (*kiato*, or *tito*: this last name is an old form not now in use). These *kiato* cross the hull, and in large canoes may project several feet on the opposite side. The left side of the canoe next the outrigger is called *oaa i ama*; the right side of the canoe is *oaa i katea*.

The flat piece of wood covering the bow and forming a figure-head is the *poki*. The point of the *poki*, just over the cutwater, is called *iu a'riari*. Returning inwards along the *poki* there is a crescent-shaped piece of wood called the *ua'riri* (the red star in the zenith). Mr. Large suggests that this may be Mercury. Close by this crescent is a star-shaped piece called *Maurua*. Between the *ua'riri* and the *Maurua* is a connecting-piece called the *va'i karakia* (the place of divination). In the centre of the star is a hole, and into this hole fits a stylet of wood about 15 in. long, connected with a cord which also passes through the hole, and is prevented from coming out altogether by a knot on the lower side of the *poki*. The stylet is called *te ui*. The canoe is steered by keeping it in line with *te ui* and some object at a distance. Half-way along the outrigger side of the canoe is a projecting ledge (in the model this portion is about 9 in. long by 4 in. in width); through this are bored seven holes large enough to receive the *ui* or stylet. The names of these holes are Te Raiti (east), Ngaau (south-east), Apatonga (south), Rakiroa (south-west), Opunga (west), Akama (north-west), and Apatokerau (north). When the sky was overcast or the heavenly bodies were obscured, by placing the *ui* in the proper hole, the direction of the cord from the star to the hole would enable the canoe to be kept on her course in the required direction. All canoes in the seas of that part were said to have been provided with this apparatus. This appears to be a very interesting and important fact as an addition to the sailing-charts and other devices for sailing the southern seas.

At the stem is a lofty carved sternpost called *repe* (Maori, *rapa*), the top of which is barbed in a peculiar fashion called *tara auini*. From the loops or holes in the sternpost hung loops of rope. From these short loops stout ropes could be fastened to the foremost outrigger (*kiato aumi*) on both sides. These were used in rough weather as life-lines. The lower life-line on the right side is called *e iva*, that on the opposite side, *e iviroa*; the middle life-line on both sides *maoraora*, the uppermost lines *vaatiia*. There is a *pe*, or song, to the effect that the good captain prepares his life-lines when he sees bad weather approaching.

As with the Maori, the sail was *ra*. It was made either from the leaf of the pandanus (*ravara*) or from *pakoko*, a native cloth made from the bark of the *aoa* and *anga*.

*Tata*, as in New Zealand, is the name of the canoe-baler; the paddle '*oe*', the steering-paddle *oe tu oe*. *Tira* is the mast, and *riu* the hold or the inside of the canoe, as in New Zealand.

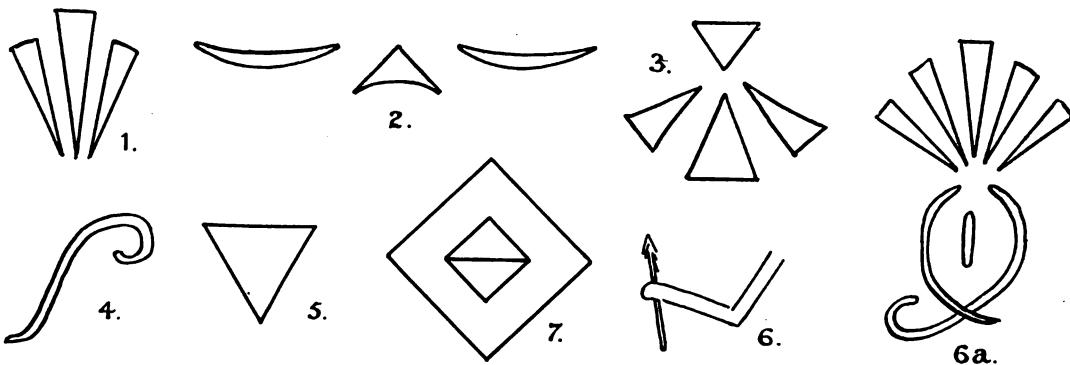
The details of the carvings and painted decorations are interesting, especially as it is generally so difficult to obtain the explanation and meaning of the separate marks.

(1.) The first is a combination of three wedge-shaped marks. These three represent the ancient tribes Akatauira, Vairuarangi, and Papaarangi. Occasionally a fourth wedge was added, which signified the Tongaiti, a tribe of later date, which arrived from Tonga.

(2) is a form of tattooing anciently used, called *paoro*.

(3.) Ancestral tattooing called *tavakevake*. This is a copy of the pattern on the breast of Tangitoru. It is supposed to enable the bearer to increase and multiply.

(4) represents an empty marine shell called "ariri." When the animal dies or when the animal is eaten and the shell is lying empty on the beach, it is then entered and appropriated by a species of land-crab called "unga." This crab burrows



5286:

underground, and comes to the surface in the month of May. This shell was carried round as a symbol when war was inevitable, and when this was seen the women and children hid in caves, which were called their *ariri*, or places of refuge.

(5.) *Nio mango*—the shark's-tooth mark.

(6.) This sign is called *ma'ora*. It is bound to the forehead, and its signification was very similar to that of No. 4, being a call to arms, a kind of fiery cross, and at the same time a notice for non-combatants to get out of the way.

(7.) This is called *ia*, and is carved on a piece of wood, and carried round the country bound to the forehead of the bearer as the symbol of peace or peacemaking. The bearer also carried a "peace axe" (*maia*) in the belt (*tatua*). The drum of peace was only sounded after a human sacrifice had been made, and until this was heard it was not safe for the fugitives to come forth from their hiding-places.

It appears that every living thing except fish is called *manu*, and this led me to imagine at first that Tangitoru when describing No. 4 meant that a bird occupied the dead shells. A bird would be *manu rere*.

No. 3 differs from that given by Tangitoru to Dr. Buck on page 96.

## ROUGH NOTES ON MANGAIA "PEACE" OR CEREMONIAL AXES, AND SLINGS.

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By A. HAMILTON.

### "PEACE" OR CEREMONIAL AXES.

THE above are peculiar to Mangaia, and were not found in other islands of the Cook Group. The stone called *kara*, from which the *toki* proper—*i.e.*, the head—was made, was found at a place called Makaatu, on the east side of this island, near Ivirua. The art of fashioning these articles in their present style is said to have originated with Rori, an ancestor who flourished about the sixteenth or seventeenth century, and who lived most of his life as a hermit in a cave in the desolate region of upheaved coral on the south-east side of the island, known as the Raei Kere. He also made and carved the handles (*kakau*) in their present style, and bound the heads or hafts with his peculiar sinnet lashing. Amongst numerous other articles fashioned by this great *taunga* of old were the ancient gods of the Mangaians (the first three common also to the other islands), Tane, Rongo, Tangaroa, Tiaio, Teipe, &c., beautifully carved, and ornamented with sinnet lashings and red feathers. These idols remained objects of veneration and worship until the introduction of Christianity to this island about 1823—or, rather, till after the heathen who fought against it had given in—when all but the great god Tane, who was hidden in a cave, were given up to the missionaries. Some were burnt, while some were conveyed to the London Missionary Society Museum in London. With regard to the ceremonial axes (or adzes), the large kind (of which one sample, about 5 ft. high, belonging to Tangitoru, was taken to the New Zealand Exhibition at Christchurch) is called a *kano maia*. It was the recognized symbol of power and authority, and when, after each of their interminable intertribal wars, the drum of peace was sounded, the *toa*, or victor, had the *kano maia* carried round before him to show that he was the lord of the land, and that peace was made. It was greatly venerated by the people on that account. The smaller kinds of "peace" axes (or adzes) were called *ruatangaeo* (or kingfisher's nests), from the square holes on the hafts. These axes, which were also beautifully carved, and ornamented with feathers, were regarded as inferior gods, or as objects of divination. It was believed that when the square holes were stopped up with plugs of *ara*, it had an effect in stilling storms, and protecting fishermen from their fury. One pattern of carving on these axes is called *nio mango* (shark's tooth), from its resemblance thereto. Another, which bears some grotesque likeness to a man squatting, is called "*tikitiki tangata*." There are other kinds, the signification of which is now lost.

## SLINGS FOR THROWING STONES AT AN ENEMY.

These, as in New Zealand Maori, were called *maka*. They were made of the bark of the *au* (yellow hibiscus), with a sort of shallow pocket in which the stone reposed. The end of one part was firmly tied to the wrist of the slinger, while the end of the other part was grasped in his hand. Whirling the sling two or three times round his head, the loose end of the sling was then let go, and the missile flew in the direction required. The range was about a hundred yards, according to the strength of the slinger. The missiles, which were about the size and shape of a small orange, were made of the hardest stones in the island, called *reru*, *ruarangi*, or *kara*, and were very effective as weapons when a good many men were engaged in combat, being principally used against a flying enemy who were unable to dodge the missiles.



PART OF THE FRONT OF A PATAKA.

## JGH NOTES

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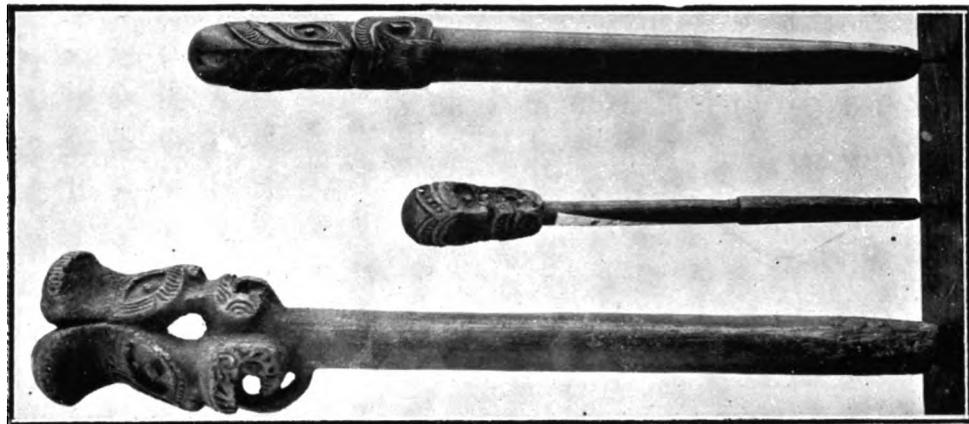


FIG. 3.

CARVED GOD-STICKS FROM THE WHANGANUI DISTRICT.

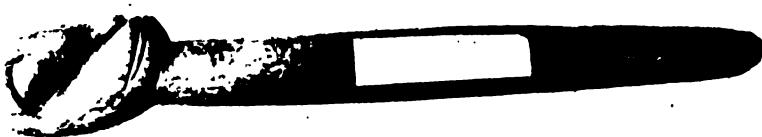
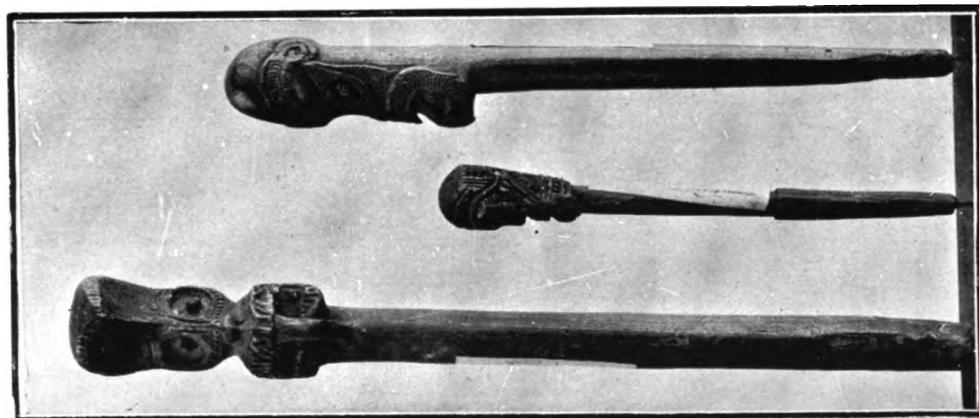


FIG. 2.



FIG. 1.



## NOTE ON NEW ZEALAND GOD-STICKS.

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[By A. HAMILTON.]

IN the "Internationale Archiv fur Ethnographie," Bd. xii, 1899, page 223, Mr. Percy Smith published some notes on the god-sticks of the Maori of the west coast of the North Island, and gave illustrations of one or two.

In Figs. 1 and 3 I give the front and side views of three that were obtained by the Rev. R. Taylor at a very early date, and that are now in the possession of H. S. Harper, Esq., of Whanganui.

The large one is double, as in the stone gods, and this double-headed Janus-like form seems to be regular and normal. All the specimens have lost the wrapping of fine flax cord which should be found curiously woven round the lower part of the stick.

The two in Fig. 2 are evidently from a different locality. In the more elaborately carved one the strap-like bands when viewed from the side form two conventional human figures with their arms and legs interlaced, back to back.

The double-faced god must also be compared with the small stone images found on Necker Island, one of which is a double figure, back to back, and also carvings from the Cook Group, and with certain stone gods from Taranaki and the Chatham Islands.

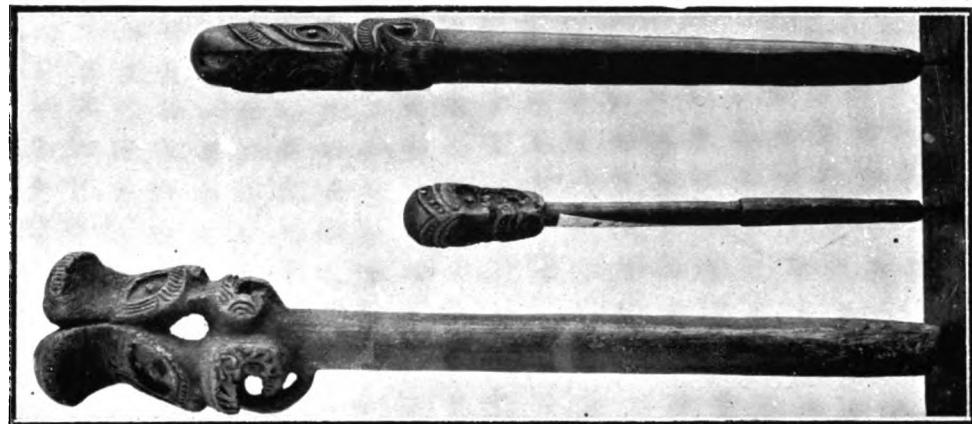


FIG. 3.

CARVED GOD-STICKS FROM THE WHANGANUI DISTRICT.

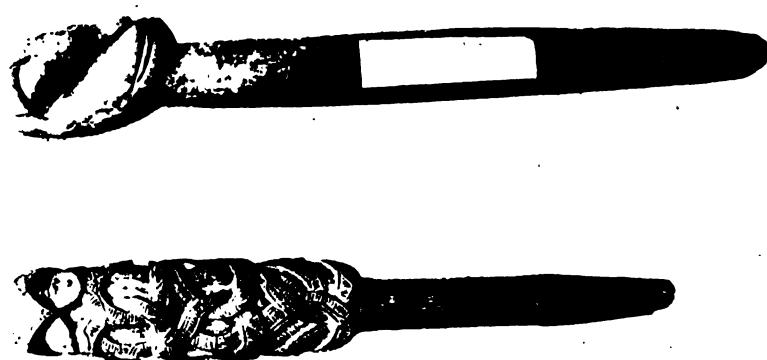
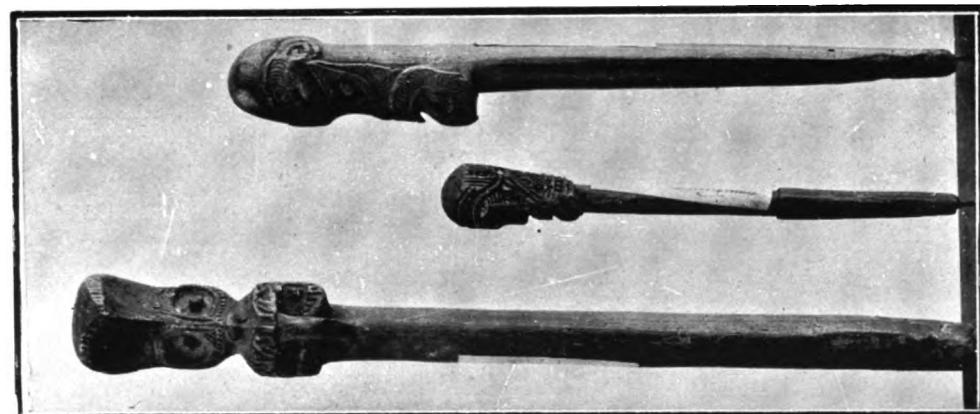


FIG. 2.

FIG. 1.



A *MARIPI*, OR SCARIFYING-KNIFE, AND A *PARE*, OR CARVED DOOR-LINTEL, IN THE SALEM MUSEUM, U.S.A.

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[By A. HAMILTON.]

THROUGH the courtesy of the authorities of the Salem Museum I am able to figure one of the most beautiful specimens of scarifying-knives that I have ever heard of. It was presented to the Salem Museum by a Captain William Richardson in the year 1807, together with other specimens, on his return from a whaling voyage. He probably obtained it in the Bay of Islands.

Sir Walter Buller figures a very fine specimen in the Transactions of the New Zealand Institute, vol. xxvi, p. 570, pl. li.

There is also a wonderfully beautiful but imperfect specimen in the Auckland Museum.

The delicate nature of the carving and the attachment of the shark-teeth forbid the supposition that these knives were for ordinary cutting purposes, but it is known that they were used at *tangis* for cutting and lacerating the flesh in token of grief. The custom is of great antiquity, and is forbidden in the regulations prescribed for the Jews in Leviticus and Job.

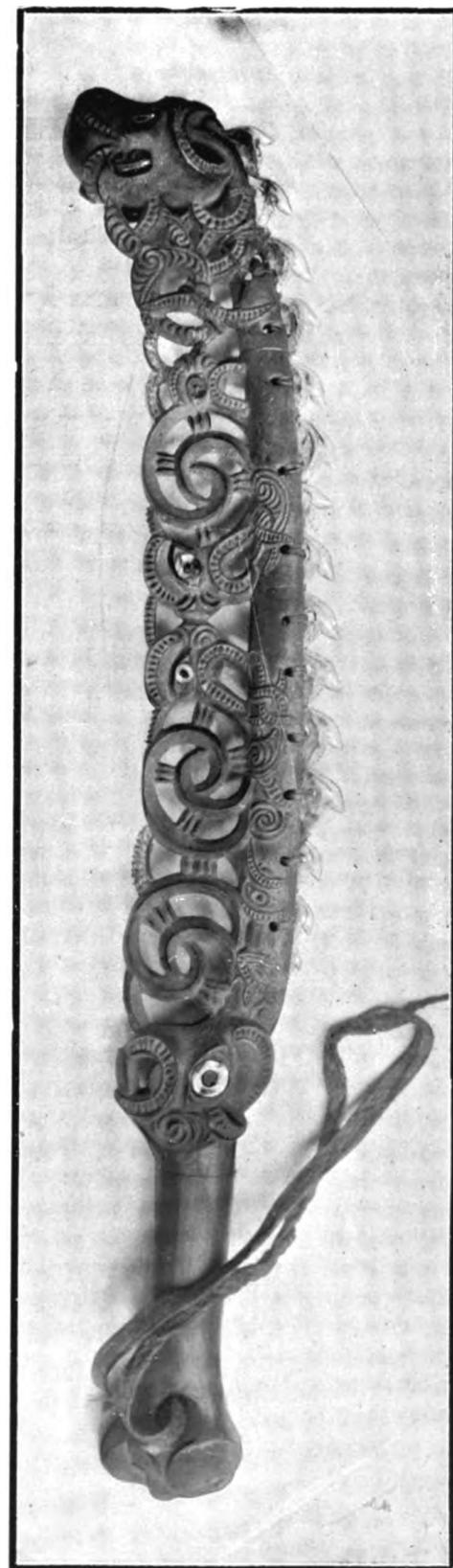
Schliemann notes that in his excavations at Hissarlik he found sharp flakes similar to those used at the present day in that region for ceremonial laceration. The common people would content themselves with a piece of sharp shell or obsidian.

From the Salem Museum comes also the photograph of a *pare* or door-lintel. This was received by them from the captain of one of the whaling-ships in 1813.

It is exceedingly fortunate that the dates of acquisition have been so carefully kept, as we can now be sure that the work was done before much European influence had been brought to bear on the designs or methods of work. This *pare* can be definitely located, from the style of carving, as having been made in the Bay of Plenty District.



PARE IN THE SALEM MUSEUM.



MARIPI OR SCARIFYING-KNIFE IN THE SALEM MUSEUM.

## FIGURES CARVED IN PUMICE ROCK, FOUND IN THE CHATHAM ISLANDS.

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[By A. HAMILTON.]

FOR many years the Museum has possessed two large carvings in pumice rock, received from the Chatham Islands.

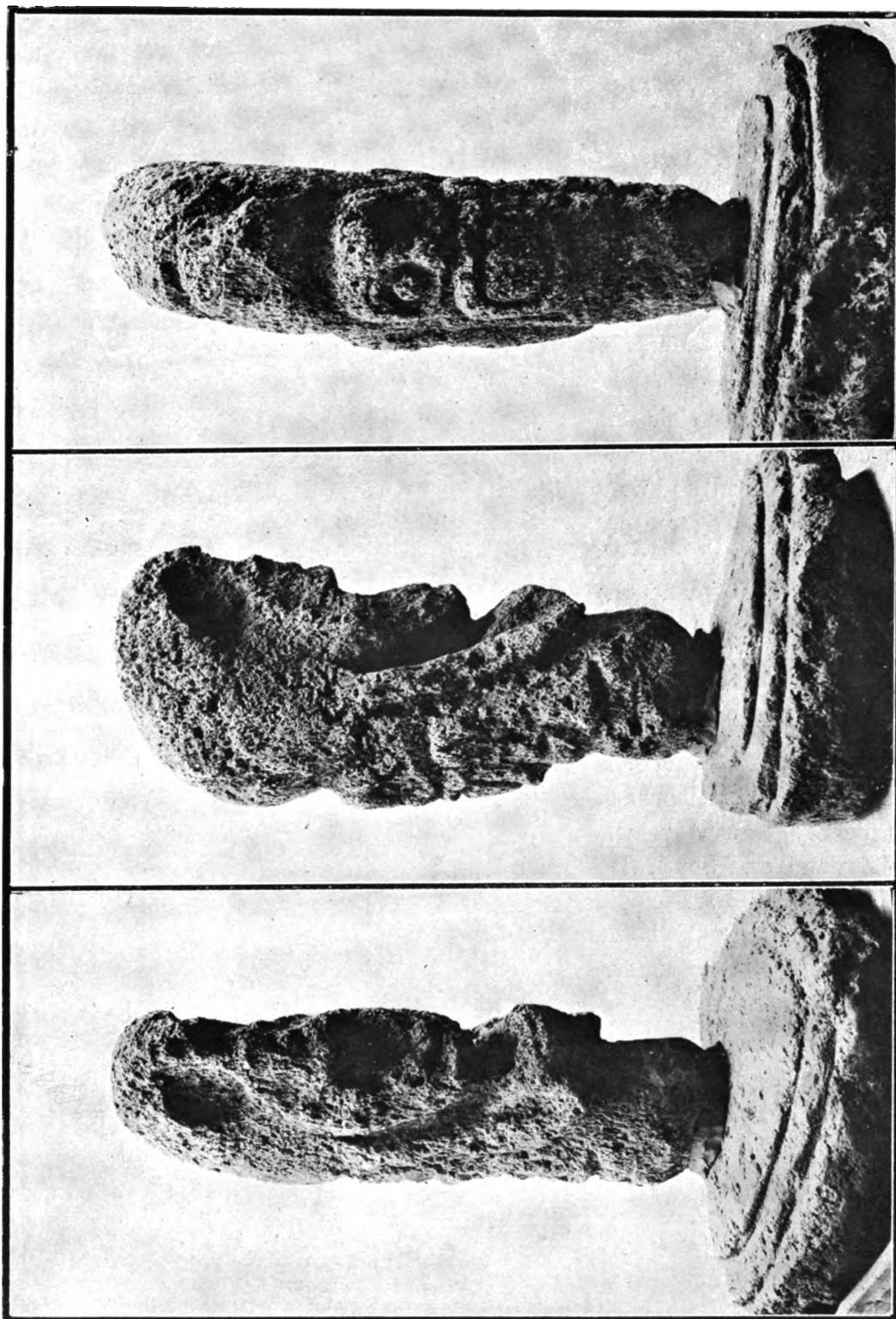
One is a piece  $13\frac{1}{2}$  in. in height, which has been carved into two faces, one on each side. The larger carving occupies nearly the full height of the stone, and, unfortunately, it has suffered much damage. It will be seen from the photograph, however, that it represented the head and upper part of the body of a god or man, and that the upper part suggests a helmet or head-dress similar to the Greek-looking feather helmet of the Hawaiians. The nose and eyes have been obliterated. At the back of the figure is a head much more in accordance with Maori carving, having the huge mouth, small nose, and prominent circular eyes seen on the *tekos* or *wheku* of a Maori house.

This double-faced carving is represented as standing on a flat block of pumice having a diameter of 19 in., and a thickness of 6 in. It is somewhat heart-shaped in outline, and is carved so as to give three slight elevations. There is nothing to show that the two carvings belong to each other, but it is believed that they were found at the same place. I suggest that this stone was used in the *tuahu* or sacred place of the village, and that on it were offered to the gods the first fruits of sea and land at the appropriate seasons.

The double-faced carving appears to be closely similar to a stone *kumara* god from New Plymouth now in the possession of Mr. Hoby, of Wellington.

I think that both were *kumara* gods—that is, protecting deities placed every season in the plantations, whose duty it was to watch over the crops and give a fruitful harvest. Mr. Shand, however, who is the best authority on the antiquities of the Chatham Islands, thinks that it represents Pou, the god presiding *whakapakoko hauhakenga*, or image of the God of the Harvest. Height, 1 ft.  $1\frac{1}{2}$  in.

The photograph shows the double-headed figure standing on the flat heart-shaped piece, but there is nothing to suggest that they occupied those relative positions when in their original state.



CARVINGS IN PUMICE ROCK FROM THE CHATHAM ISLANDS.

## NOTES ON A CARVED BURIAL-CHEST FOUND NEAR HOKIANGA, NEW ZEALAND.

IN the thirty-ninth volume of the Transactions of the New Zealand Institute Mr. T. F. Cheeseman\* gives an interesting account of the finding of some finely carved burial-chests in the Waimamaku district, which are now in the fine collection of Maori ethnological specimens in the Auckland Museum.

The Dominion Museum has now acquired eight of these carved chests from the same neighbourhood, and they and also the one figured by me in "Maori Art"† may be taken to belong to about the same period as the Auckland Museum specimens. The two mentioned by me in the book were apparently the first discovered (the other being now in the Museum at Melbourne). Subsequently I saw at the New Zealand and South Sea Exhibition, held at Dunedin in 1889-90, a very small and interesting specimen of the same kind exhibited by a gentleman from Whangaroa, which is now in the collection of the late Sir Walter Buller, F.R.S.

The best specimen in our collection is 3 ft. 11 in. in height and 16 in. in diameter. As will be seen from the illustrations, which give three



FIG. 1.

\* Maori-carved burial-chests in the Auckland Museum, plates xii and xiii.

† "Maori Art," pl. xxiv, fig. 3, p. 158. See also Baessler: Maori Särgen from Waimamaku, in *Zeitschrift für Ethnologie*, 1905, heft vi, taf. x-xii, and woodcut.

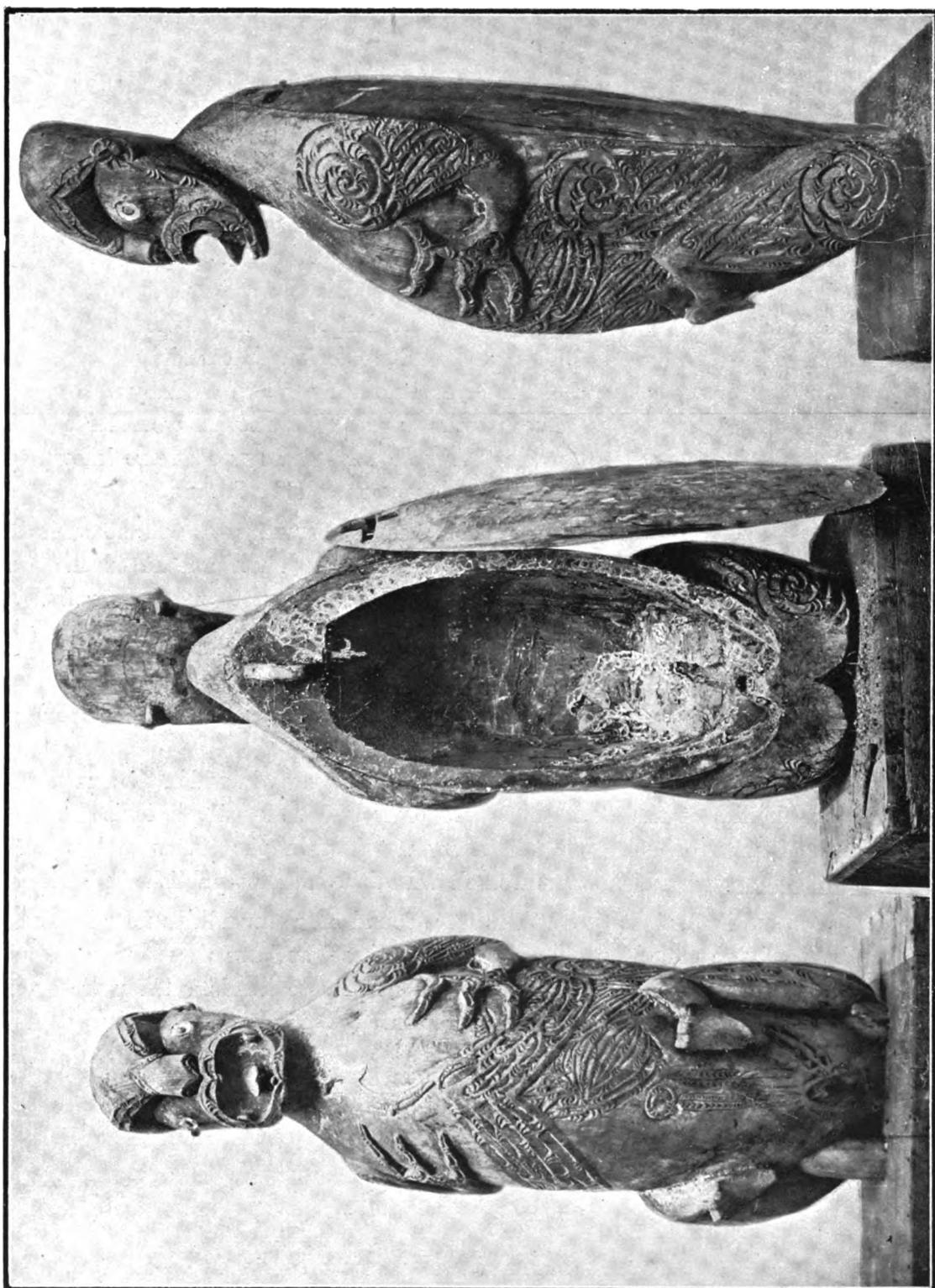


FIG. 2.—MAORI BURIAL-CHEST.

points of view, the interior is hollowed to contain the prepared bones, and the cover is ingeniously fitted to fasten with a curved wooden peg or pin, to be seen on the stand. The chain-like markings on the inside are the marks left by the clay cells built by the mason-fly, *Pompilius*, to contain its young and their food. The general shape is the same in the eight specimens. None of these assume the tall, elegant form of those in the Auckland Museum, which appears at present to be exceptional.

The style of figure is common to all known examples, but the details vary considerably. A portion (Fig. 1) on a large scale of the lower part of the figure is given, and it will be seen that a serious cut or wound is represented on the lower left-hand side of the abdomen, apparently stitched up. Although the situation of the incision is not the usual one for Cæsarian section, it certainly recalls the old tradition that in the days of *Toi-kai-rakau* delivery was effected by abdominal section. On the other hand, it may of course represent an actual wound received by the lady who is represented, and in fairly modern times women are known to have suffered impalement with the whalebone weapon called a *hoeroa*.

There is another very remarkable point in this carving: as will be seen in the back view of the chest, the ears are pierced through the middle of the ear horizontally by a cylindrical wooden plug, the lobe not being bored for suspension of an ear drop or ornament. This is quite contrary to any Maori custom that I ever heard of.

The type of face represented in all these burial-chests is quite different from any Maori work that has come down to us.

The specimens in the Auckland Museum form a group in which the ornamentation on the bodies of the chests is almost entirely done by simple incised lines, although the largest one shows a different treatment in the hands and in the finely carved open work which is not well shown in the hitherto published plates.

Mr. Cheeseman mentions that others were found on the sandhills near Raglan, and are in a private collection. In addition to these, at least three other chests were found in the same district, and are now in private hands. They are even more elaborate in their conception and decoration.

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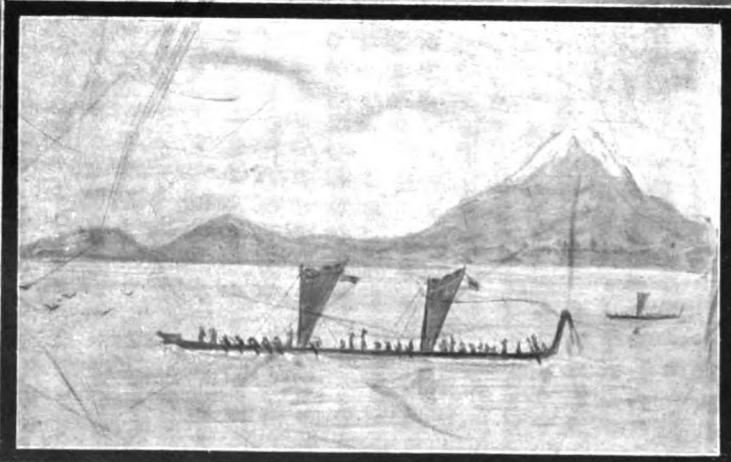




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